DEPARTMENT OF PHARMACOLOGY, UNIVERSITY OF OXFORD

Scientific publications 2019-2022

Department of Pharmacology, University of Oxford

Publications 2019

Small-scale environmental enrichment and exercise enhance learning and spatial memory of carassius auratus, and increase cell proliferation in the telencephalon: An exploratory study.
Abreu, C. C.; Fernandes, T. N.; Henrique, E. P.; Pereira, P. D. C.; Marques, S. B.; Herdeiro, S. L. S.; Oliveira, F. R. R.; Magalhães, N. G. M.; Anthony, D. C.; Melo, M. A. D.; et al.
Braz J Med Biol Res 2019: 52, 5, e8026.
http://dx.doi.org/10.1590/1414-431x20198026

Age-related gait standards for healthy children and young people: The GOS-ICH paediatric gait centiles.
Alderson, L. M.; Joksaite, S. X.; Kemp, J.; Main, E.; Watson, T.; Platt, F. M.; Cortina-Borja, M.
Arch Dis Child 2019: 104, 8, 755-760.
http://dx.doi.org/10.1136/archdischild-2018-316311

Endolysosomal Ca(2+) signaling in cancer: The role of TPC2, from tumorigenesis to metastasis.
Alharbi, A. F.; Parrington, J.
Front Cell Dev Biol 2019: 7, 302.
http://dx.doi.org/10.3389/fcell.2019.00302

3,17β-bis-sulfamoyloxy-2-methoxyestra-1,3,5(10)-triene and nonsteroidal sulfamate derivatives inhibit carbonic anhydrase ix: Structure-activity optimization for isoform selectivity.
Andring, J. T.; Dohle, W.; Tu, C.; Potter, B. V. L.; McKenna, R.
J Med Chem 2019: 62, 4, 2202-2212.
http://dx.doi.org/10.1021/acs.jmedchem.8b01990

What do microglia really do in healthy adult brain?
Augusto-Oliveira, M.; Arrifano, G. P.; Lopes-Araújo, A.; Santos-Sacramento, L.; Takeda, P. Y.; Anthony, D. C.; Malva, J. O.; Crespo-Lopez, M. E.
Cells 2019: 8, 10.
http://dx.doi.org/10.3390/cells8101293

Extracellular vesicle integrins act as a nexus for platelet adhesion in cerebral microvessels.
Bagi, Z.; Couch, Y.; Broskova, Z.; Perez-Balderas, F.; Yeo, T.; Davis, S.; Fischer, R.; Sibson, N. R.; Davis, B. G.; Anthony, D. C.
Sci Rep 2019: 9, 1, 15847.
http://dx.doi.org/10.1038/s41598-019-52127-3

Synthesis of terminal ribose analogues of adenosine 5'-diphosphate ribose as probes for the transient receptor potential cation channel trpm2.
Baszczyński, O.; Watt, J. M.; Rozewitz, M. D.; Guse, A. H.; Fliegert, R.; Potter, B. V. L.
J Org Chem 2019: 84, 10, 6143-6157.
http://dx.doi.org/10.1021/acs.joc.9b00338

Sterile activation of invariant natural killer T cells by ER-stressed antigen-presenting cells.
Bedard, M.; Shrestha, D.; Priestman, D. A.; Wang, Y.; Schneider, F.; Matute, J. D.; Iyer, S. S.; Gileadi, U.; Prota, G.; Kandasamy, M.; et al.
Proc Natl Acad Sci U S A 2019: 116, 47, 23671-23681.
http://dx.doi.org/10.1073/pnas.1910097116

The epistasis project: A multi-cohort study of the effects of BDNF, DBH, and SORT1 epistasis on Alzheimer's disease risk.
Belbin, O.; Morgan, K.; Medway, C.; Warden, D.; Cortina-Borja, M.; van Duijn, C. M.; Adams, H. H. H.; Frank-Garcia, A.; Brookes, K.; Sanchez-Juan, P.; et al.
J Alzheimers Dis 2019: 68, 4, 1535-1547.
http://dx.doi.org/10.3233/jad-181116

Group ii metabotropic glutamate receptors mediate presynaptic inhibition of excitatory transmission in pyramidal neurons of the human cerebral cortex.
Bocchio, M.; Lukacs, I. P.; Stacey, R.; Plaha, P.; Apostolopoulos, V.; Livermore, L.; Sen, A.; Ansorge, O.; Gillies, M. J.; Somogyi, P.; et al.
Front Cell Neurosci 2018: 12, 508.
http://dx.doi.org/10.3389/fncel.2018.00508

N-homocysteinylation of tau and MAP1 is increased in autopsy specimens of Alzheimer's disease and vascular dementia.
Bossenmeyer-Pourie, C.; Smith, A. D.; Lehmann, S.; Deramecourt, V.; Sablonniere, B.; Camadro, J. M.; Pourie, G.; Kerek, R.; Helle, D.; Umoret, R.; et al.
J Pathol 2019: 248, 3, 291-303.
http://dx.doi.org/10.1002/path.5254

Inositol hexakisphosphate increases the size of platelet aggregates.
Brehm, M. A.; Klemm, U.; Rehbach, C.; Erdmann, N.; Kolšek, K.; Lin, H.; Aponte-Santamaría, C.; Gräter, F.; Rauch, B. H.; Riley, A. M.; et al.
Biochem Pharmacol 2019: 161, 14-25.
http://dx.doi.org/10.1016/j.bcp.2018.12.011

Excitatory gabaergic signalling is associated with benzodiazepine resistance in status epilepticus.
Burman, R. J.; Selfe, J. S.; Lee, J. H.; van den Berg, M.; Calin, A.; Codadu, N. K.; Wright, R.; Newey, S. E.; Parrish, R. R.; Katz, A. A.; et al.
Brain 2019: 142, 11, 3482-3501.
http://dx.doi.org/10.1093/brain/awz283

The structural basis of lipid scrambling and inactivation in the endoplasmic reticulum scramblase TMEM16k.
Bushell, S. R.; Pike, A. C. W.; Falzone, M. E.; Rorsman, N. J. G.; Ta, C. M.; Corey, R. A.; Newport, T. D.; Christianson, J. C.; Scofano, L. F.; Shintre, C. A.; et al.
Nat Commun 2019: 10, 1, 3956.
http://dx.doi.org/10.1038/s41467-019-11753-1

Temporal evolution of beta bursts in the Parkinsonian cortical and basal ganglia network.
Cagnan, H.; Mallet, N.; Moll, C. K. E.; Gulberti, A.; Holt, A. B.; Westphal, M.; Gerloff, C.; Engel, A. K.; Hamel, W.; Magill, P. J.; et al.
Proc Natl Acad Sci U S A 2019: 116, 32, 16095-16104.
http://dx.doi.org/10.1073/pnas.1819975116

Mechanistic convergence and shared therapeutic targets in Niemann-Pick disease.
Colaco, A.; Kaya, E.; Adriaenssens, E.; Davis, L. C.; Zampieri, S.; Fernández-Suárez, M. E.; Tan, C. Y.; Deegan, P. B.; Porter, F. D.; Galione, A.; et al.
J Inherit Metab Dis 2020: 43, 3, 574-585.
http://dx.doi.org/10.1002/jimd.12191

Structure-based development of new RAS-effector inhibitors from a combination of active and inactive RAS-binding compounds.
Cruz-Migoni, A.; Canning, P.; Quevedo, C. E.; Bataille, C. J. R.; Bery, N.; Miller, A.; Russell, A. J.; Phillips, S. E. V.; Carr, S. B.; Rabbitts, T. H.
Proc Natl Acad Sci U S A 2019: 116, 7, 2545-2550.
http://dx.doi.org/10.1073/pnas.1811360116

In vivo behaviour of glyco-Nai@SWCNT 'nanobottles'.
De Munari, S.; Sandoval, S.; Pach, E.; Ballesteros, B.; Tobias, G.; Anthony, D. C.; Davis, B. G.
Inorganica Chimica Acta 2019: 495, 118933.
http://dx.doi.org/10.1016/j.ica.2019.05.032

Tetrahydroisoquinoline sulfamates as potent microtubule disruptors: Synthesis, antiproliferative and antitubulin activity of dichlorobenzyl-based derivatives, and a tubulin cocrystal structure.
Dohle, W.; Prota, A. E.; Menchon, G.; Hamel, E.; Steinmetz, M. O.; Potter, B. V. L.
ACS Omega 2019: 4, 1, 755-764.
http://dx.doi.org/10.1021/acsomega.8b02879

A synthetic cyclitol-nucleoside conjugate polyphosphate is a highly potent second messenger mimic.
Dohle, W.; Su, X.; Mills, S. J.; Rossi, A. M.; Taylor, C. W.; Potter, B. V. L.
Chem Sci 2019: 10, 20, 5382-5390.
http://dx.doi.org/10.1039/c9sc00445a

A protocol for dual calcium-voltage optical mapping in murine sinoatrial preparation with optogenetic pacing.
Dong, R.; Mu, U. M. R.; Reith, A. J. M.; O'Shea, C.; He, S.; Duan, K.; Kou, K.; Grassam-Rowe, A.; Tan, X.; Pavlovic, D.; et al.
Front Physiol 2019: 10, 954. http://dx.doi.org/10.3389/fphys.2019.00954

Quantitative RYR1 reduction and loss of calcium sensitivity of RYR1Q1970FSX16+A4329D cause cores and loss of muscle strength.
Elbaz, M.; Ruiz, A.; Bachmann, C.; Eckhardt, J.; Pelczar, P.; Venturi, E.; Lindsay, C.; Wilson, A. D.; Alhussni, A.; Humberstone, T.; et al.
Hum Mol Genet 2019: 28, 18, 2987-2999.
http://dx.doi.org/10.1093/hmg/ddz092

Embryonic progenitor pools generate diversity in fine-scale excitatory cortical subnetworks.
Ellender, T. J.; Avery, S. V.; Mahfooz, K.; Scaber, J.; von Klemperer, A.; Nixon, S. L.; Buchan, M. J.; van Rheede, J. J.; Gatti, A.; Waites, C.; et al.
Nat Commun 2019: 10, 1, 5224.
http://dx.doi.org/10.1038/s41467-019-13206-1

Pnmt-derived cardiomyocytes: anatomical localization, function and future perspectives.
Fan, X.; Sun, T.; Crawford, W.; Tan, X.; Ou, X.; Terrar, D. A.; Ebert, S. N.; Lei, M.
Front Physiol 2019: 10, 713.
http://dx.doi.org/10.3389/fphys.2019.00713

Interaction of nutrition and genetics via DMNT3l-mediated DNA methylation determines cognitive decline.
Flitton, M.; Rielly, N.; Warman, R.; Warden, D.; Smith, A. D.; Macdonald, I. A.; Knight, H. M.
Neurobiol Aging 2019: 78, 64-73.
http://dx.doi.org/10.1016/j.neurobiolaging.2019.02.001

NAADP receptors.
Galione, A.
Cold Spring Harb Perspect Biol 2019: 11, 11.
http://dx.doi.org/10.1101/cshperspect.a035071

Synthesis and study of multifunctional cyclodextrin-deferasirox hybrids.
Gascon, J. M.; Oliveri, V.; McGown, A.; Kaya, E.; Chen, Y. L.; Austin, C.; Walker, M.; Platt, F. M.; Vecchio, G.; Spencer, J.
ChemMedChem 2019: 14, 16, 1484-1492.
http://dx.doi.org/10.1002/cmdc.201900334

Thiamine and benfotiamine counteract ultrasound-induced aggression, normalize ampa receptor expression and plasticity markers, and reduce oxidative stress in mice.
Gorlova, A.; Pavlov, D.; Anthony, D. C.; Ponomarev, E. D.; Sambon, M.; Proshin, A.; Shafarevich, I.; Babaevskaya, D.; Lesch, K. P.; Bettendorff, L.; et al.
Neuropharmacology 2019: 156, 107543.
http://dx.doi.org/10.1016/j.neuropharm.2019.02.025

Pancreatic islet chromatin accessibility and conformation reveals distal enhancer networks of type 2 diabetes risk.
Greenwald, W. W.; Chiou, J.; Yan, J.; Qiu, Y.; Dai, N.; Wang, A.; Nariai, N.; Aylward, A.; Han, J. Y.; Kadakia, N.; et al.
Nat Commun 2019: 10, 1, 2078.
http://dx.doi.org/10.1038/s41467-019-09975-4

Does lifestyle intervention after gastric bypass surgery prevent weight regain? A randomized clinical trial.
Hanvold, S. E.; Vinknes, K. J.; Løken, E. B.; Hjartåker, A.; Klungsøyr, O.; Birkeland, E.; Risstad, H.; Gulseth, H. L.; Refsum, H.; Aas, A. M.
Obes Surg 2019: 29, 11, 3419-3431.
http://dx.doi.org/10.1007/s11695-019-04109-7

A protocol for transverse cardiac slicing and optical mapping in murine heart.
He, S.; Wen, Q.; O'Shea, C.; Mu, U. M. R.; Kou, K.; Grassam-Rowe, A.; Liu, Y.; Fan, Z.; Tan, X.; Ou, X.; et al.
Front Physiol 2019: 10, 755.
http://dx.doi.org/10.3389/fphys.2019.00755

Neuropeptide-Y causes coronary microvascular constriction and is associated with reduced ejection fraction following st-elevation myocardial infarction.
Herring, N.; Tapoulal, N.; Kalla, M.; Ye, X.; Borysova, L.; Lee, R.; Dall'Armellina, E.; Stanley,C.; Ascione, R.; Lu, C. J.et al.
Eur Heart J 2019: 40, 24, 1920-1929.
http://dx.doi.org/10.1093/eurheartj/ehz115

NPC1 regulates er contacts with endocytic organelles to mediate cholesterol egress.
Höglinger, D.; Burgoyne, T.; Sanchez-Heras, E.; Hartwig, P.; Colaco, A.; Newton, J.; Futter, C. E.; Spiegel, S.; Platt, F. M.; Eden, E. R.
Nat Commun 2019: 10, 1, 4276.
http://dx.doi.org/10.1038/s41467-019-12152-2

Association of methionine to homocysteine status with brain magnetic resonance imaging measures and risk of dementia.
Hooshmand, B.; Refsum, H.; Smith, A. D.; Kalpouzos, G.; Mangialasche, F.; von Arnim, C. A. F.; Kareholt, I.; Kivipelto, M.; Fratiglioni, L.
JAMA Psychiatry 2019: 76, 11, 1198-1205.
http://dx.doi.org/10.1001/jamapsychiatry.2019.1694

Reduced sphingolipid hydrolase activities, substrate accumulation and ganglioside decline in Parkinson's disease.
Huebecker, M.; Moloney, E. B.; van der Spoel, A. C.; Priestman, D. A.; Isacson, O.; Hallett, P. J.; Platt, F. M.
Mol Neurodegener 2019: 14, 1, 40.
http://dx.doi.org/10.1186/s13024-019-0339-z

Homocysteine status modifies the treatment effect of omega-3 fatty acids on cognition in a randomized clinical trial in mild to moderate alzheimer's disease: The OmegaAD study.
Jerneren, F.; Cederholm, T.; Refsum, H.; Smith, A. D.; Turner, C.; Palmblad, J.; Eriksdotter, M.; Hjorth, E.; Faxen-Irving, G.; Wahlund, L. O.; et al.
J Alzheimers Dis 2019: 69, 1, 189-197.
http://dx.doi.org/10.3233/JAD-181148

Prebiotic reduction of brain histone deacetylase (HDAC) activity and olanzapine-mediated weight gain in rats, are acetate independent.
Kao, A. C.; Chan, K. W.; Anthony, D. C.; Lennox, B. R.; Burnet, P. W.
Neuropharmacology 2019: 150, 184-191.
http://dx.doi.org/10.1016/j.neuropharm.2019.02.014

Different substrate specificities of the two ADPR binding sites in TRPM2 channels of Nematostella vectensis and the role of IDPR.
Kühn, F. J. P.; Watt, J. M.; Potter, B. V. L.; Lückhoff, A.
Sci Rep 2019: 9, 1, 4985.
http://dx.doi.org/10.1038/s41598-019-41531-4

Genetic meta-analysis of diagnosed Alzheimer's disease identifies new risk loci and implicates Abeta, tau, immunity and lipid processing.
Kunkle, B. W.; Grenier-Boley, B.; Sims, R.; Bis, J. C.; Damotte, V.; Naj, A. C.; Boland, A.; Vronskaya, M.; van der Lee, S. J.; Amlie-Wolf, A.; et al.
Nature Genetics 2019: 51, 3, 414-430.
http://dx.doi.org/10.1038/s41588-019-0358-2

Genetic influence of plasma homocysteine on Alzheimer's disease.
Lehmann, D. J.; Cortina-Borja, M.
Neurobiol Aging 2019: 76, 217-218.
http://dx.doi.org/10.1016/j.neurobiolaging.2018.08.028

Response by Lei et al to letter regarding article, "modernized classification of cardiac antiarrhythmic drugs".
Lei, M.; Wu, L.; Terrar, D. A.; Huang, C. L.
Circulation 2019: 139, 13, 1652-1653.
http://dx.doi.org/10.1161/circulationaha.118.039292

Enhanced discriminative aversive learning and amygdala responsivity in 5-HT transporter mutant mice.
Lima, J.; Sharp, T.; Bannerman, D. M.; McHugh, S. B.
Transl Psychiatry 2019: 9, 1, 139.
http://dx.doi.org/10.1038/s41398-019-0476-8

A biased agonist at immunometabolic receptor GPR84 causes distinct functional effects in macrophages.
Lucy, D.; Purvis, G. S. D.; Zeboudj, L.; Chatzopoulou, M.; Recio, C.; Bataille, C. J. R.; Wynne, G. M.; Greaves, D. R.; Russell, A. J.
ACS Chem Biol 2019: 14, 9, 2055-2064.
http://dx.doi.org/10.1021/acschembio.9b00533

Effects of 50 Hz magnetic fields on circadian rhythm control in mice.
Lundberg, L.; Sienkiewicz, Z.; Anthony, D. C.; Broom, K. A.
Bioelectromagnetics 2019: 40, 4, 250-259.
http://dx.doi.org/10.1002/bem.22188

A multiscale analysis in CD38(-/-) mice unveils major prefrontal cortex dysfunctions.
Martucci, L. L.; Amar, M.; Chaussenot, R.; Benet, G.; Bauer, O.; de Zélicourt, A.; Nosjean, A.; Launay, J. M.; Callebert, J.; Sebrié, C.; et al.
Faseb j 2019: 33, 5, 5823-5835.
http://dx.doi.org/10.1096/fj.201800489R

Cerebral oxidative metabolism mapping in four genetic mouse models of anxiety and mood disorders.
Matrov, D.; Kaart, T.; Lanfumey, L.; Maldonado, R.; Sharp, T.; Tordera, R. M.; Kelly, P. A.; Deakin, B.; Harro, J.
Behav Brain Res 2019: 356, 435-443.
http://dx.doi.org/10.1016/j.bbr.2018.05.031

Synthesis and in vitro evaluation of piperazinyl-ureido sulfamates as steroid sulfatase inhibitors.
Moi, D.; Foster, P. A.; Rimmer, L. G.; Jaffri, A.; Deplano, A.; Balboni, G.; Onnis, V.; Potter, B. V. L.
Eur J Med Chem 2019: 182, 111614.
http://dx.doi.org/10.1016/j.ejmech.2019.111614

Drug-induced increase in lysobisphosphatidic acid reduces the cholesterol overload in Niemann-Pick type C cells and mice.
Moreau, D.; Vacca, F.; Vossio, S.; Scott, C.; Colaco, A.; Paz Montoya, J.; Ferguson, C.; Damme, M.; Moniatte, M.; Parton, R. G.; et al.
EMBO Rep 2019: 20, 7, e47055.
http://dx.doi.org/10.15252/embr.201847055

Enhanced activity of multiple TRIC-B channels: An endoplasmic reticulum/sarcoplasmic reticulum mechanism to boost counterion currents.
O'Brien, F.; Eberhardt, D.; Witschas, K.; El-Ajouz, S.; Iida, T.; Nishi, M.; Takeshima, H.; Sitsapesan, R.; Venturi, E.
J Physiol 2019: 597, 10, 2691-2705. http://dx.doi.org/10.1113/jp277241

Optical quantal analysis using Ca(2+) indicators: A robust method for assessing transmitter release probability at excitatory synapses by imaging single glutamate release events.
Padamsey, Z.; Tong, R.; Emptage, N.
Front Synaptic Neurosci 2019: 11, 5.
http://dx.doi.org/10.3389/fnsyn.2019.00005

TLR9-mediated dendritic cell activation uncovers mammalian ganglioside species with specific ceramide backbones that activate invariant natural killer T cells.
Paget, C.; Deng, S.; Soulard, D.; Priestman, D. A.; Speca, S.; von Gerichten, J.; Speak, A. O.; Saroha, A.; Pewzner-Jung, Y.; Futerman, A. H.; et al.
PLoS Biol 2019: 17, 3, e3000169.
http://dx.doi.org/10.1371/journal.pbio.3000169

The eggstraordinary story of how life begins.
Parrington, J.; Arnoult, C.; Fissore, R. A.
Mol Reprod Dev 2019: 86, 1, 4-19.
http://dx.doi.org/10.1002/mrd.23083

IMP2 increases mouse skeletal muscle mass and voluntary activity by enhancing autocrine insulin-like growth factor 2 production and optimizing muscle metabolism.
Regué, L.; Ji, F.; Flicker, D.; Kramer, D.; Pierce, W.; Davidoff, T.; Widrick, J. J.; Houstis, N.; Minichiello, L.; Dai, N.; et al.
Mol Cell Biol 2019: 39, 7.
http://dx.doi.org/10.1128/mcb.00528-18

Liver-specific deletion of IGF2 mrna binding protein-2/imp2 reduces hepatic fatty acid oxidation and increases hepatic triglyceride accumulation.
Regué, L.; Minichiello, L.; Avruch, J.; Dai, N.
J Biol Chem 2019: 294, 31, 11944-11951.
http://dx.doi.org/10.1074/jbc.RA119.008778

Synthesis of an α-phosphono-α,α-difluoroacetamide analogue of the diphosphoinositol pentakisphosphate 5-InsP(7).
Riley, A. M.; Wang, H.; Shears, S. B.; Potter, B. V. L.
Medchemcomm 2019: 10, 7, 1165-1172.
http://dx.doi.org/10.1039/c9md00163h

NPC1 deficiency in mice is associated with fetal growth restriction, neonatal lethality and abnormal lung pathology.
Rodriguez-Gil, J. L.; Watkins-Chow, D. E.; Baxter, L. L.; Yokoyama, T.; Zerfas, P. M.; Starost, M. F.; Gahl, W. A.; Malicdan, M. C. V.; Porter, F. D.; Platt, F. M.; et al.
J Clin Med 2019: 9, 1.
http://dx.doi.org/10.3390/jcm9010012

GABAergic medial septal neurons with low-rhythmic firing innervating the dentate gyrus and hippocampal area CA3.
Salib, M.; Joshi, A.; Katona, L.; Howarth, M.; Micklem, B. R.; Somogyi, P.; Viney, T. J.
J Neurosci 2019: 39, 23, 4527-4549.
http://dx.doi.org/10.1523/jneurosci.3024-18.2019

Nonsteroidal sulfamate derivatives as new therapeutic approaches for neurofibromatosis 2 (nf2).
Shen, Y. C.; Arellano-Garcia, C.; Menjivar, R. E.; Jewett, E. M.; Dohle, W.; Karchugina, S.; Chernoff, J.; Potter, B. V. L.; Barald, K. F.
BMC Pharmacol Toxicol 2019: 20, 1, 67.
http://dx.doi.org/10.1186/s40360-019-0369-8

Plasma glutathione suggests oxidative stress is equally present in early- and late-onset bipolar disorder.
Singh, N.; McMahon, H.; Bilderbeck, A.; Reed, Z. E.; Tunbridge, E.; Brett, D.; Geddes, J. R.; Churchill, G. C.; Goodwin, G. M.
Bipolar Disord 2019: 21, 1, 61-67.
http://dx.doi.org/10.1111/bdi.12640

Dietary supplements for brain health.
Smith, A. D.; Refsum, H.; Miller, J. W.
Jama 2019: 321, 24, 2467.
http://dx.doi.org/10.1001/jama.2019.4963

The kynurenine pathway and cognitive performance in community-dwelling older adults. The Hordaland Health Study.
Solvang, S. H.; Nordrehaug, J. E.; Tell, G. S.; Nygard, O.; McCann, A.; Ueland, P. M.; Midttun, O.; Meyer, K.; Vedeler, C. A.; Aarsland, D.; et al.
Brain Behav Immun 2019: 75, 155-162.
http://dx.doi.org/10.1016/j.bbi.2018.10.003

Stereological analysis of early gene expression using EGR-1 immunolabeling after spreading depression in the rat somatosensory cortex.
Sosthenes, M. C. K.; Diniz, D. G.; Roodselaar, J.; Abadie-Guedes, R.; de Siqueira Mendes, F. C. C.; Fernandes, T. N.; Bittencourt, J. C.; Diniz, C. W. P.; Anthony, D. C.; Guedes, R. C. A.
Front Neurosci 2019: 13, 1020.
http://dx.doi.org/10.3389/fnins.2019.01020

Circulating amino acids are associated with bone mineral density decline and ten-year major osteoporotic fracture risk in older community-dwelling adults.
Su, Y.; Elshorbagy, A.; Turner, C.; Refsum, H.; Chan, R.; Kwok, T.
Bone 2019: 129, 115082.
http://dx.doi.org/10.1016/j.bone.2019.115082

Combined anti-inflammatory and neuroprotective treatments have the potential to impact disease phenotypes in CLN3 (-/-) mice.
Tarczyluk-Wells, M. A.; Salzlechner, C.; Najafi, A. R.; Lim, M. J.; Smith, D.; Platt, F. M.; Williams, B. P.; Cooper, J. D.
Front Neurol 2019: 10, 963.
http://dx.doi.org/10.3389/fneur.2019.00963

Biochemical studies of membrane fusion at the single-particle level.
Tian, Z.; Gong, J.; Crowe, M.; Lei, M.; Li, D.; Ji, B.; Diao, J.
Prog Lipid Res 2019: 73, 92-100.
http://dx.doi.org/10.1016/j.plipres.2019.01.001

A hippocampus-accumbens tripartite neuronal motif guides appetitive memory in space.
Trouche, S.; Koren, V.; Doig, N. M.; Ellender, T. J.; El-Gaby, M.; Lopes-Dos-Santos, V.; Reeve, H. M.; Perestenko, P. V.; Garas, F. N.; Magill, P. J.; et al.
Cell 2019: 176, 6, 1393-1406.e1316.
http://dx.doi.org/10.1016/j.cell.2018.12.037

Focusing light in biological tissue through a multimode optical fiber: Refractive index matching.
Turcotte, R.; Schmidt, C. C.; Emptage, N. J.; Booth, M. J.
Opt Lett 2019: 44, 10, 2386-2389.
http://dx.doi.org/10.1364/ol.44.002386

Cessation of anti-VLA-4 therapy in a focal rat model of multiple sclerosis causes an increase in neuroinflammation.
Vainio, S. K.; Dickens, A. M.; Tuisku, J.; Eskola, O.; Solin, O.; Löyttyniemi, E.; Anthony, D. C.; Rinne, J. O.; Airas, L.; Haaparanta-Solin, M.
EJNMMI Res 2019: 9, 1, 38.
http://dx.doi.org/10.1186/s13550-019-0508-7

The role of TRESK in discrete sensory neuron populations and somatosensory processing.
Weir, G. A.; Pettingill, P.; Wu, Y.; Duggal, G.; Ilie, A. S.; Akerman, C. J.; Cader, M. Z.
Front Mol Neurosci 2019: 12, 170.
http://dx.doi.org/10.3389/fnmol.2019.00170

Systemic immune response to traumatic CNS injuries-are extracellular vesicles the missing link?
Yates, A. G.; Anthony, D. C.; Ruitenberg, M. J.; Couch, Y.
Front Immunol 2019: 10, 2723.
http://dx.doi.org/10.3389/fimmu.2019.02723

Classifying the antibody-negative nmo syndromes: Clinical, imaging, and metabolomic modeling.
Yeo, T.; Probert, F.; Jurynczyk, M.; Sealey, M.; Cavey, A.; Claridge, T. D. W.; Woodhall, M.; Waters, P.; Leite, M. I.; Anthony, D. C.; et al.
Neurol Neuroimmunol Neuroinflamm 2019: 6, 6, e626.
http://dx.doi.org/10.1212/nxi.0000000000000626

Tnf deficiency causes alterations in the spatial organization of neurogenic zones and alters the number of microglia and neurons in the cerebral cortex.
Yli-Karjanmaa, M.; Larsen, K. S.; Fenger, C. D.; Kristensen, L. K.; Martin, N. A.; Jensen, P. T.; Breton, A.; Nathanson, L.; Nielsen, P. V.; Lund, M. C.; et al.
Brain Behav Immun 2019: 82, 279-297.
http://dx.doi.org/10.1016/j.bbi.2019.08.195

Department of Pharmacology, University of Oxford

Publications 2020

Association of maternal plasma total cysteine and growth among infants in Nepal: A cohort study.
Arora, N.; Strand, T. A.; Chandyo, R. K.; Elshorbagy, A.; Shrestha, L.; Ueland, P. M.; Ulak, M.; Schwinger, C.
Nutrients 2020: 12, 9.
http://dx.doi.org/10.3390/nu12092849

Astroglia-specific contributions to the regulation of synapses, cognition and behaviour.
Augusto-Oliveira, M.; Arrifano, G. P.; Takeda, P. Y.; Lopes-Araújo, A.; Santos-Sacramento, L.; Anthony, D. C.; Verkhratsky, A.; Crespo-Lopez, M. E.
Neurosci Biobehav Rev 2020: 118, 331-357.
http://dx.doi.org/10.1016/j.neubiorev.2020.07.039

Synthesis of SMT022357 enantiomers and in vivo evaluation in a duchenne muscular dystrophy mouse model.
Babbs, A.; Berg, A.; Chatzopoulou, M.; Davies, K. E.; Davies, S. G.; Edwards, B.; Elsey, D. J.; Emer, E.; Figuccia, A. L. A.; Fletcher, A. M.; et al.
Tetrahedron 2020: 76, 2, 130819.
http://dx.doi.org/10.1016/j.tet.2019.130819

2-arylbenzo[d]oxazole phosphinate esters as second-generation modulators of utrophin for the treatment of Duchenne muscular dystrophy.
Babbs, A.; Berg, A.; Chatzopoulou, M.; Davies, K. E.; Davies, S. G.; Edwards, B.; Elsey, D. J.; Emer, E.; Guiraud, S.; Harriman, S.; et al.
J Med Chem 2020: 63, 14, 7880-7891.
http://dx.doi.org/10.1021/acs.jmedchem.0c00807

From diagnosis to therapy in Duchenne muscular dystrophy.
Babbs, A.; Chatzopoulou, M.; Edwards, B.; Squire, S. E.; Wilkinson, I. V. L.; Wynne, G. M.; Russell, A. J.; Davies, K. E.
Biochem Soc Trans 2020: 48, 3, 813-821.
http://dx.doi.org/10.1042/bst20190282

Immature dentate granule cells require NTRK2/TRKB for the formation of functional hippocampal circuitry.
Badurek, S.; Griguoli, M.; Asif-Malik, A.; Zonta, B.; Guo, F.; Middei, S.; Lagostena, L.; Jurado-Parras, M. T.; Gillingwater, T. H.; Gruart, A.; et al.
iScience 2020: 23, 5, 101078.
http://dx.doi.org/10.1016/j.isci.2020.101078

Rapid and efficient microwave-assisted Friedländer quinoline synthesis.
Bailey, H. V.; Mahon, M. F.; Vicker, N.; Potter, B. V. L.
ChemistryOpen 2020: 9, 11, 1113-1122.
http://dx.doi.org/10.1002/open.202000247

Synthesis of phosphonoacetate analogues of the second messenger adenosine 5'-diphosphate ribose (ADPR).
Baszczyňski, O.; Watt, J. M.; Rozewitz, M. D.; Fliegert, R.; Guse, A. H.; Potter, B. V. L.
RSC Adv 2020: 10, 3, 1776-1785.
http://dx.doi.org/10.1039/c9ra09284f

Metabolomics in multiple sclerosis disease course and progression.
Bhargava, P.; Anthony, D. C.
Mult Scler 2020: 26, 5, 591-598.
http://dx.doi.org/10.1177/1352458519876020

Upregulating β-hexosaminidase activity in rodents prevents α-synuclein lipid associations and protects dopaminergic neurons from α-synuclein-mediated neurotoxicity.
Brekk, O. R.; Korecka, J. A.; Crapart, C. C.; Huebecker, M.; MacBain, Z. K.; Rosenthal, S. A.; Sena-Esteves, M.; Priestman, D. A.; Platt, F. M.; Isacson, O.; et al.
Acta Neuropathol Commun 2020: 8, 1, 127.
http://dx.doi.org/10.1186/s40478-020-01004-6

The transition to status epilepticus: How the brain meets the demands of perpetual seizure activity.
Burman, R. J.; Raimondo, J. V.; Jefferys, J. G. R.; Sen, A.; Akerman, C. J.
Seizure 2020: 75, 137-144.
http://dx.doi.org/10.1016/j.seizure.2019.09.012

Optical interrogation of sympathetic neuronal effects on macroscopic cardiomyocyte network dynamics.
Burton, R. B.; Tomek, J.; Ambrosi, C. M.; Larsen, H. E.; Sharkey, A. R.; Capel, R. A.; Corbett, A. D.; Bilton, S.; Klimas, A.; Stephens, G.; et al.
iScience 2020: 23, 7, 101334.
http://dx.doi.org/10.1016/j.isci.2020.101334

Association of homocysteine, methionine, and *MTHFR* 677C>T polymorphism with rate of cardiovascular multimorbidity development in older adults in Sweden.
Calderón-Larrañaga, A.; Saadeh, M.; Hooshmand, B.; Refsum, H.; Smith, A. D.; Marengoni, A.; Vetrano, D. L.
JAMA Netw Open 2020: 3, 5, e205316.
http://dx.doi.org/10.1001/jamanetworkopen.2020.5316

A single administration of the antibiotic, minocycline, reduces fear processing and improves implicit learning in healthy volunteers: Analysis of the serum metabolome.
Chan, S. Y.; Capitão, L.; Probert, F.; Klinge, C.; Hoeckner, S.; Harmer, C. J.; Cowen, P. J.; Anthony, D. C.; Burnet, P.W.J.
Transl Psychiatry 2020: 10, 1, 148.
http://dx.doi.org/10.1038/s41398-020-0818-6

Post-inflammatory behavioural despair in male mice is associated with reduced cortical glutamate-glutamine ratios, and circulating lipid and energy metabolites.
Chan, S. Y.; Probert, F.; Radford-Smith, D. E.; Hebert, J. C.; Claridge, T. D. W.; Anthony, D. C.; Burnet, P. W. J.
Sci Rep 2020: 10, 1, 16857.
http://dx.doi.org/10.1038/s41598-020-74008-w

A two-pore channel protein required for regulating mtorc1 activity on starvation.
Chang, F. S.; Wang, Y.; Dmitriev, P.; Gross, J.; Galione, A.; Pears, C.
BMC Biol 2020: 18, 1, 8.
http://dx.doi.org/10.1186/s12915-019-0735-4

Isolation, structural identification, synthesis, and pharmacological profiling of 1,2-trans-dihydro-1,2-diol metabolites of the utrophin modulator ezutromid.
Chatzopoulou, M.; Claridge, T. D. W.; Davies, K. E.; Davies, S. G.; Elsey, D. J.; Emer, E.; Fletcher, A. M.; Harriman, S.; Robinson, N.; Rowley, J. A.; et al.
J Med Chem 2020: 63, 5, 2547-2556.
http://dx.doi.org/10.1021/acs.jmedchem.9b01547

Decreasing HEPG2 cytotoxicity by lowering the lipophilicity of benzo[d]oxazolephosphinate ester utrophin modulators.
Chatzopoulou, M.; Emer, E.; Lecci, C.; Rowley, J. A.; Casagrande, A. S.; Moir, L.; Squire, S. E.; Davies, S. G.; Harriman, S.; Wynne, G. M.; et al.
ACS Med Chem Lett 2020: 11, 12, 2421-2427.
http://dx.doi.org/10.1021/acsmedchemlett.0c00405

Defective platelet function in Niemann-Pick disease type C1.
Chen, O. C. W.; Colaco, A.; Davis, L. C.; Kiskin, F. N.; Farhat, N. Y.; Speak, A. O.; Smith, D. A.; Morris, L.; Eden, E.; Tynan, P.; et al.
JIMD Rep 2020: 56, 1, 46-57.
http://dx.doi.org/10.1002/jmd2.12148

The inositol pyrophosphate 5-INSP(7) drives sodium-potassium pump degradation by relieving an autoinhibitory domain of pi3k p85α.
Chin, A. C.; Gao, Z.; Riley, A. M.; Furkert, D.; Wittwer, C.; Dutta, A.; Rojas, T.; Semenza, E. R.; Felder, R. A.; Pluznick, J. L.; et al.
Sci Adv 2020: 6, 44.
http://dx.doi.org/10.1126/sciadv.abb8542

Unexpected differences in the pharmacokinetics of N-acetyl-DL-leucine enantiomers after oral dosing and their clinical relevance.
Churchill, G. C.; Strupp, M.; Galione, A.; Platt, F. M.
PLoS One 2020: 15, 2, e0229585.
http://dx.doi.org/10.1371/journal.pone.0229585

Unbiased yeast screens identify cellular pathways affected in Niemann-Pick disease type C.
Colaco, A.; Fernández-Suárez, M. E.; Shepherd, D.; Gal, L.; Bibi, C.; Chuartzman, S.; Diot, A.; Morten, K.; Eden, E.; Porter, F. D.; et al.
Life Sci Alliance 2020: 3, 7.
http://dx.doi.org/10.26508/lsa.201800253

Mechanistic convergence and shared therapeutic targets in Niemann-Pick disease.
Colaco, A.; Kaya, E.; Adriaenssens, E.; Davis, L. C.; Zampieri, S.; Fernández-Suárez, M. E.; Tan, C. Y.; Deegan, P. B.; Porter, F. D.; Galione, A.; et al.
J Inherit Metab Dis 2020: 43, 3, 574-585.
http://dx.doi.org/10.1002/jimd.12191

C-ABL inhibition activates TFEB and promotes cellular clearance in a lysosomal disorder.
Contreras, P. S.; Tapia, P. J.; González-Hódar, L.; Peluso, I.; Soldati, C.; Napolitano, G.; Matarese, M.; Heras, M. L.; Valls, C.; Martinez, A.; et al.
iScience 2020: 23, 11, 101691.
http://dx.doi.org/10.1016/j.isci.2020.101691

Compact and contactless reflectance confocal microscope for neurosurgery.
Cui, J.; Turcotte, R.; Hampson, K. M.; Wincott, M.; Schmidt, C. C.; Emptage, N. J.; Charalampaki, P.; Booth, M. J.
Biomed Opt Express 2020: 11, 8, 4772-4785.
http://dx.doi.org/10.1364/boe.397832

Chloride dynamics alter the input-output properties of neurons.
Currin, C. B.; Trevelyan, A. J.; Akerman, C. J.; Raimondo, J. V.
PLoS Comput Biol 2020: 16, 5, e1007932.
http://dx.doi.org/10.1371/journal.pcbi.1007932

Loss of two-pore channel 2 (TPC2) expression increases the metastatic traits of melanoma cells by a mechanism involving the hippo signalling pathway and store-operated calcium entry.
D'Amore, A.; Hanbashi, A. A.; Di Agostino, S.; Palombi, F.; Sacconi, A.; Voruganti, A.; Taggi, M.; Canipari, R.; Blandino, G.; Parrington, J.; et al.
Cancers (Basel) 2020: 12, 9.
http://dx.doi.org/10.3390/cancers12092391

NAADP-regulated two-pore channels drive phagocytosis through endo-lysosomal Ca(2+) nanodomains, calcineurin and dynamin.
Davis, L. C.; Morgan, A. J.; Galione, A.
Embo j 2020: 39, 14, e104058.
http://dx.doi.org/10.15252/embj.2019104058

A new series of aryl sulfamate derivatives: design, synthesis, and biological evaluation.
El-Gamal, M. I.; Zaraei, S. O.; Foster, P. A.; Anbar, H. S.; El-Gamal, R.; El-Awady, R.; Potter, B. V. L.
Bioorg Med Chem 2020: 28, 8, 115406.
http://dx.doi.org/10.1016/j.bmc.2020.115406

Body mass index determines the response of plasma sulfur amino acids to methionine loading.
Elshorbagy, A. K.; Graham, I.; Refsum, H.
Biochimie 2020: 173, 107-113.
http://dx.doi.org/10.1016/j.biochi.2020.03.001

Comparative study of preimplantation development following distinct assisted oocyte activation protocols in a PLC-zeta knockout mouse model.
Ferrer-Buitrago, M.; Tilleman, L.; Thys, V.; Hachem, A.; Boel, A.; Van Nieuwerburgh, F.; Deforce, D.; Leybaert, L.; De Sutter, P.; Parrington, J.; et al.
Mol Hum Reprod 2020: 26, 11, 801-815.
http://dx.doi.org/10.1093/molehr/gaaa060

Nutrition and the ageing brain: Moving towards clinical applications.
Flanagan, E.; Lamport, D.; Brennan, L.; Burnet, P.; Calabrese, V.; Cunnane, S. C.; de Wilde, M. C.; Dye, L.; Farrimond, J. A.; Emerson Lombardo, N.; et al.
Ageing Res Rev 2020: 62, 101079.
http://dx.doi.org/10.1016/j.arr.2020.101079

Evolution of neuroinflammation across the lifespan of individuals with Down syndrome.
Flores-Aguilar, L.; Iulita, M. F.; Kovecses, O.; Torres, M. D.; Levi, S. M.; Zhang, Y.; Askenazi, M.; Wisniewski, T.; Busciglio, J.; Cuello, A. C.
Brain 2020: 143, 12, 3653-3671.
http://dx.doi.org/10.1093/brain/awaa326

Pyridine nucleotide metabolites and calcium release from intracellular stores.
Galione, A.; Chuang, K. T.
Adv Exp Med Biol 2020: 1131, 371-394.
http://dx.doi.org/10.1007/978-3-030-12457-1_15

Stress-induced aggression in heterozygous TPH2 mutant mice is associated with alterations in serotonin turnover and expression of 5-HT6 and AMPA subunit 2a receptors.
Gorlova, A.; Ortega, G.; Waider, J.; Bazhenova, N.; Veniaminova, E.; Proshin, A.; Kalueff, A. V.; Anthony, D. C.; Lesch, K. P.; Strekalova, T.
J Affect Disord 2020: 272, 440-451.
http://dx.doi.org/10.1016/j.jad.2020.04.014

Novel cardiac cell subpopulations: PNMT-derived cardiomyocytes.
Grassam-Rowe, A.; Ou, X.; Lei, M.
Open Biol 2020: 10, 8, 200095.
http://dx.doi.org/10.1098/rsob.200095

A path toward precision medicine for neuroinflammatory mechanisms in Alzheimer's disease.
Hampel, H.; Caraci, F.; Cuello, A. C.; Caruso, G.; Nisticò, R.; Corbo, M.; Baldacci, F.; Toschi, N.; Garaci, F.; Chiesa, P. A.; et al.
Front Immunol 2020: 11, 456.
http://dx.doi.org/10.3389/fimmu.2020.00456

Mom's diet matters: Maternal prebiotic intake in mice reduces anxiety and alters brain gene expression and the fecal microbiome in offspring.
Hebert, J. C.; Radford-Smith, D. E.; Probert, F.; Ilott, N.; Chan, K. W.; Anthony, D. C.; Burnet, P. W. J.
Brain Behav Immun 2021: 91, 230-244.
http://dx.doi.org/10.1016/j.bbi.2020.09.034

Pro-maturational effects of human IPSC-derived cortical astrocytes upon IPSC-derived cortical neurons.
Hedegaard, A.; Monzón-Sandoval, J.; Newey, S. E.; Whiteley, E. S.; Webber, C.; Akerman, C. J.
Stem Cell Reports 2020: 15, 1, 38-51.
http://dx.doi.org/10.1016/j.stemcr.2020.05.003

Vitamin C - an adjunctive therapy for respiratory infection, sepsis and Covid-19.
Holford, P.; Carr, A. C.; Jovic, T. H.; Ali, S. R.; Whitaker, I. S.; Marik, P. E.; Smith, A. D.
Nutrients 2020: 12, 12, 3760.
http://dx.doi.org/10.3390/nu12123760

The bet inhibitor CPI203 promotes ex vivo expansion of cord blood long-term repopulating hscs and megakaryocytes.
Hua, P.; Hester, J.; Adigbli, G.; Li, R.; Psaila, B.; Roy, A.; Bataille, C. J. R.; Wynne, G. M.; Jackson, T.; Milne, T. A.; et al.
Blood 2020: 136, 21, 2410-2415.
http://dx.doi.org/10.1182/blood.2020005357

Update on antiarrhythmic drug pharmacology.
Huang, C. L.; Wu, L.; Jeevaratnam, K.; Lei, M.
J Cardiovasc Electrophysiol 2020: 31, 2, 579-592.
http://dx.doi.org/10.1111/jce.14347

Targeting two-pore channels: Current progress and future challenges.
Jin, X.; Zhang, Y.; Alharbi, A.; Hanbashi, A.; Alhoshani, A.; Parrington, J.
Trends Pharmacol Sci 2020: 41, 8, 582-594.
http://dx.doi.org/10.1016/j.tips.2020.06.002

Changing phase relationship of the stepping rhythm to neuronal oscillatory theta activity in the septo-hippocampal network of mice.
Joshi, A.; Somogyi, P.
Brain Struct Funct 2020: 225, 2, 871-879.
http://dx.doi.org/10.1007/s00429-020-02031-8

Opportunities for multiscale computational modelling of serotonergic drug effects in Alzheimer's disease.
Joshi, A.; Wang, D. H.; Watterson, S.; McClean, P. L.; Behera, C. K.; Sharp, T.; Wong-Lin, K.
Neuropharmacology 2020: 174, 108118.
http://dx.doi.org/10.1016/j.neuropharm.2020.108118

Synaptic organisation and behaviour-dependent activity of mGluR8a-innervated GABAergic trilaminar cells projecting from the hippocampus to the subiculum.
Katona, L.; Hartwich, K.; Tomioka, R.; Somogyi, J.; Roberts, J. D. B.; Wagner, K.; Joshi, A.; Klausberger, T.; Rockland, K. S.; Somogyi, P.
Brain Struct Funct 2020: 225, 2, 705-734.
http://dx.doi.org/10.1007/s00429-020-02029-2

Beneficial effects of acetyl-DL-leucine (ADLL) in a mouse model of Sandhoff disease.
Kaya, E.; Smith, D. A.; Smith, C.; Boland, B.; Strupp, M.; Platt, F. M.
J Clin Med 2020: 9, 4.
http://dx.doi.org/10.3390/jcm9041050

TRESK is a key regulator of nocturnal suprachiasmatic nucleus dynamics and light adaptive responses.
Lalic, T.; Steponenaite, A.; Wei, L.; Vasudevan, S. R.; Mathie, A.; Peirson, S. N.; Lall, G. S.; Cader, M. Z.
Nat Commun 2020: 11, 1, 4614.
http://dx.doi.org/10.1038/s41467-020-17978-9

Cardiac arrhythmogenesis: A tale of two clocks?
Lei, M.; Huang, C. L.
Cardiovasc Res 2020: 116, 14, e205-e209.
http://dx.doi.org/10.1093/cvr/cvz283

Intrinsic regulation of microvascular tone by myoendothelial feedback circuits.
Lemmey, H. A. L.; Garland, C. J.; Dora, K. A.
Curr Top Membr 2020: 85, 327-355.
http://dx.doi.org/10.1016/bs.ctm.2020.01.004

Backpropagation and the brain.
Lillicrap, T. P.; Santoro, A.; Marris, L.; Akerman, C. J.; Hinton, G.
Nat Rev Neurosci 2020: 21, 6, 335-346.
http://dx.doi.org/10.1038/s41583-020-0277-3

20 years an orphan: Is GPR84 a plausible medium-chain fatty acid-sensing receptor?
Luscombe, V. B.; Lucy, D.; Bataille, C. J. R.; Russell, A. J.; Greaves, D. R.
DNA Cell Biol 2020: 39, 11, 1926-1937.
http://dx.doi.org/10.1089/dna.2020.5846

Staying in touch with the endocytic network: The importance of contacts for cholesterol transport.
Martello, A.; Platt, F. M.; Eden, E. R.
Traffic 2020: 21, 5, 354-363.
http://dx.doi.org/10.1111/tra.12726

Systemic AAV9 gene therapy using the synapsin i promoter rescues a mouse model of neuronopathic gaucher disease but with limited cross-correction potential to astrocytes.
Massaro, G.; Hughes, M. P.; Whaler, S. M.; Wallom, K. L.; Priestman, D. A.; Platt, F. M.; Waddington, SN.; Rahim, A.A.
Hum Mol Genet 2020: 29, 12, 1933-1949.
http://dx.doi.org/10.1093/hmg/ddz317

A neurotrophic mechanism directs sensory nerve transit in cranial bone.
Meyers, C. A.; Lee, S.; Sono, T.; Xu, J.; Negri, S.; Tian, Y.; Wang, Y.; Li, Z.; Miller, S.; Chang, L.; et al.
Cell Rep 2020: 31, 8, 107696.
http://dx.doi.org/10.1016/j.celrep.2020.107696

D-chiro-inositol ribophostin: A highly potent agonist of D-myo-inositol 1,4,5-trisphosphate receptors: Synthesis and biological activities.
Mills, S. J.; Rossi, A. M.; Konieczny, V.; Bakowski, D.; Taylor, C. W.; Potter, B. V. L.
J Med Chem 2020: 63, 6, 3238-3251.
http://dx.doi.org/10.1021/acs.jmedchem.9b01986

Does lysosomal rupture evoke Ca(2+) release? A question of pores and stores.
Morgan, A. J.; Yuan, Y.; Patel, S.; Galione, A.
Cell Calcium 2020: 86, 102139.
http://dx.doi.org/10.1016/j.ceca.2019.102139

Exhaustive exercise and post-exercise protein plus carbohydrate supplementation affect plasma and urine concentrations of sulfur amino acids, the ratio of methionine to homocysteine and glutathione in elite male cyclists.
Olsen, T.; Sollie, O.; Nurk, E.; Turner, C.; Jernerén, F.; Ivy, J. L.; Vinknes, K. J.; Clauss, M.; Refsum, H.; Jensen, J.
Front Physiol 2020: 11, 609335.
http://dx.doi.org/10.3389/fphys.2020.609335

Postprandial effects of a meal low in sulfur amino acids and high in polyunsaturated fatty acids compared to a meal high in sulfur amino acids and saturated fatty acids on stearoyl coa-desaturase indices and plasma sulfur amino acids: A pilot study.
Olsen, T.; Turner, C.; Øvrebø, B.; Bastani, N. E.; Refsum, H.; Vinknes, K. J.
BMC Res Notes 2020: 13, 1, 379.
http://dx.doi.org/10.1186/s13104-020-05222-y

Cardiac optical mapping - state-of-the-art and future challenges.
O'Shea, C.; Kabir, S. N.; Holmes, A. P.; Lei, M.; Fabritz, L.; Rajpoot, K.; Pavlovic, D.
Int J Biochem Cell Biol 2020: 126, 105804.
http://dx.doi.org/10.1016/j.biocel.2020.105804

Anthelmintic drug discovery: Target identification, screening methods and the role of open science.
Partridge, F. A.; Forman, R.; Bataille, C. J. R.; Wynne, G. M.; Nick, M.; Russell, A. J.; Else, K. J.; Sattelle, D. B.
Beilstein J Org Chem 2020: 16, 1203-1224.
http://dx.doi.org/10.3762/bjoc.16.105

Enhanced conditioning of adverse memories in the mouse modified swim test is associated with neuroinflammatory changes - effects that are susceptible to antidepressants.
Pavlov, D.; Gorlova, A.; Bettendorff, L.; Kalueff, A. A.; Umriukhin, A.; Proshin, A.; Lysko, A.; Landgraf, R.; Anthony, D. C.; Strekalova, T.
Neurobiol Learn Mem 2020: 172, 107227.
http://dx.doi.org/10.1016/j.nlm.2020.107227

Metabolomic studies of lipid storage disorders, with special reference to Niemann-Pick type C disease: A critical review with future perspectives.
Percival, B. C.; Gibson, M.; Wilson, P. B.; Platt, F. M.; Grootveld, M.
Int J Mol Sci 2020: 21, 7.
http://dx.doi.org/10.3390/ijms21072533

Glutathione serum levels and rate of multimorbidity development in older adults.
Pérez, L. M.; Hooshmand, B.; Mangialasche, F.; Mecocci, P.; Smith, A. D.; Refsum, H.; Inzitari, M.; Fratiglioni, L.; Rizzuto, D.; Calderón-Larrañaga, A.
J Gerontol A Biol Sci Med Sci 2020: 75, 6, 1089-1094.

Aminothiazolones as potent, selective and cell active inhibitors of the PIM kinase family.
Quevedo, C. E.; Bataille, C. J. R.; Byrne, S.; Durbin, M.; Elkins, J.; Guillermo, A.; Jones, A. M.; Knapp, S.; Nadali, A.; Walker, R. G.; et al.
Bioorg Med Chem 2020: 28, 22, 115724.
http://dx.doi.org/10.1016/j.bmc.2020.115724

Distinctive binding properties of human monoclonal IGI1 autoantibodies determine pathogenic mechanisms.
Ramberger, M.; Berretta, A.; Tan, J. M. M.; Sun, B.; Michael, S.; Yeo, T.; Theorell, J.; Bashford-Rogers, R.; Paneva, S.; O'Dowd, V.; et al.
Brain 2020: 143, 6, 1731-1745.
http://dx.doi.org/10.1093/brain/awaa104

Genetic background modifies phenotypic severity and longevity in a mouse model of Niemann-Pick disease type C1.
Rodriguez-Gil, J. L.; Watkins-Chow, D. E.; Baxter, L. L.; Elliot, G.; Harper, U. L.; Wincovitch, S. M.; Wedel, J. C.; Incao, A. A.; Huebecker, M.; Boehm, F. J.; et al.
Dis Model Mech 2020: 13, 3.
http://dx.doi.org/10.1242/dmm.042614

Dibenzoylthiamine has powerful antioxidant and anti-inflammatory properties in cultured cells and in mouse models of stress and neurodegeneration.
Sambon, M.; Gorlova, A.; Demelenne, A.; Alhama-Riba, J.; Coumans, B.; Lakaye, B.; Wins, P.; Fillet, M.; Anthony, D. C.; Strekalova, T.; et al.
Biomedicines 2020: 8, 9. http://dx.doi.org/10.3390/biomedicines8090361
Neurotransmitters and signalling. Sharp, T In New Oxford Textbook of Psychiatry Geddes, J. R.; Andreasen, N. C.; Goodwin, G., eds. 2020 Oxford, OUP, pp 122-133.

Central 5HTt receptors and their function; present and future.
Sharp, T.; Barnes, N. M.
Neuropharmacology 2020: 177, 108155.
http://dx.doi.org/10.1016/j.neuropharm.2020.108155

Both D- and L-glucose polyphosphates mimic D-myo-inositol 1,4,5-trisphosphate: New synthetic agonists and partial agonists at the INS(1,4,5)P(3) receptor.
Shipton, M. L.; Riley, A. M.; Rossi, A. M.; Brearley, C. A.; Taylor, C. W.; Potter, B. V. L.
J Med Chem 2020: 63, 10, 5442-5457.
http://dx.doi.org/10.1021/acs.jmedchem.0c00215

Combining tissue engineering and optical imaging approaches to explore interactions along the neuro-cardiac axis.
Sigalas, C.; Cremer, M.; Winbo, A.; Bose, S. J.; Ashton, J. L.; Bub, G.; Montgomery, J. M.; Burton, R. A. B.
R Soc Open Sci 2020: 7, 6, 200265.
http://dx.doi.org/10.1098/rsos.200265

Effects of the putative lithium mimetic ebselen on pilocarpine-induced neural activity.
Singh, N.; Serres, F.; Toker, L.; Sade, Y.; Blackburn, V.; Batra, A. S.; Saiardi, A.; Agam, G.; Belmaker, R. H.; Sharp, T.; et al.
Eur J Pharmacol 2020: 883, 173377.
http://dx.doi.org/10.1016/j.ejphar.2020.173377

Endothelial nitric oxide suppresses action-potential-like transient spikes and vasospasm in small resistance arteries.
Smith, J. F.; Lemmey, H. A. L.; Borysova, L.; Hiley, C. R.; Dora, K. A.; Garland, C. J.
Hypertension 2020: 76, 3, 785-794.
http://dx.doi.org/10.1161/hypertensionaha.120.15491

A semiautomated, phenotypic, in vitro scratch assay for assessing retinal pigment epithelial cell wound healing.
Storm, T.; Wilson, I.; Campbell, R.; Bolinches-Amorós, A.; Russell, A. J.; Davies, S. G.; Barnard, A. R.; MacLaren, R. E.
J Ocul Pharmacol Ther 2020: 36, 4, 257-266.
http://dx.doi.org/10.1089/jop.2019.0116

Inositol adenophostin: Convergent synthesis of a potent agonist of D-myo-inositol 1,4,5-trisphosphate receptors.
Su, X.; Dohle, W.; Mills, S. J.; Watt, J. M.; Rossi, A. M.; Taylor, C. W.; Potter, B. V. L.
ACS Omega 2020: 5, 44, 28793-28811.
http://dx.doi.org/10.1021/acsomega.0c04145

A novel optical quantal analysis of miniature events reveals enhanced frequency following amyloid β exposure.
Taylor, H. B. C.; Tong, R.; Jeans, A. F.; Emptage, N. J.
Front Cell Neurosci 2020: 14, 564081.
http://dx.doi.org/10.3389/fncel.2020.564081

Calcium signaling in the heart.
Terrar, D. A.
Adv Exp Med Biol 2020: 1131, 395-443.
http://dx.doi.org/10.1007/978-3-030-12457-1_16

A two-compartment model of synaptic computation and plasticity.
Tong, R.; Emptage, N. J.; Padamsey, Z.
Mol Brain 2020: 13, 1, 79.
http://dx.doi.org/10.1186/s13041-020-00617-1

Expert opinion on benefits of long-chain omega-3 fatty acids (DHA and EPA) in aging and clinical nutrition.
Troesch, B.; Eggersdorfer, M.; Laviano, A.; Rolland, Y.; Smith, A. D.; Warnke, I.; Weimann, A.; Calder, P. C.
Nutrients 2020: 12, 9.
http://dx.doi.org/10.3390/nu12092555

Volumetric two-photon fluorescence imaging of live neurons using a multimode optical fiber.
Turcotte, R.; Schmidt, C. C.; Booth, M. J.; Emptage, N. J.
Opt Lett 2020: 45, 24, 6599-6602.
http://dx.doi.org/10.1364/ol.409464

Deconvolution for multimode fiber imaging: modeling of spatially variant PSF
Turcotte, R.; Sutu, E.; Schmidt, C. C.; Emptage, N. J.; Booth, M. J.
Biomed Opt Express 2020: 11, 8, 4759-4771. http://dx.doi.org/10.1364/boe.399983

Metabolic, molecular, and behavioral effects of western diet in serotonin transporter-deficient mice: Rescue by heterozygosity?
Veniaminova, E.; Cespuglio, R.; Chernukha, I.; Schmitt-Boehrer, A. G.; Morozov, S.; Kalueff, A. V.; Kuznetsova, O.; Anthony, D. C.; Lesch, K. P.; Strekalova, T.
Front Neurosci 2020: 14, 24.
http://dx.doi.org/10.3389/fnins.2020.00024

Prefrontal cortex inflammation and liver pathologies accompany cognitive and motor deficits following western diet consumption in non-obese female mice.
Veniaminova, E.; Oplatchikova, M.; Bettendorff, L.; Kotenkova, E.; Lysko, A.; Vasilevskaya, E.; Kalueff, A. V.; Fedulova, L.; Umriukhin, A.; Lesch, K. P.; et al.
Life Sci 2020: 241, 117163. http://dx.doi.org/10.1016/j.lfs.2019.117163

Brain pathology in mucopolysaccharidoses (mps) patients with neurological forms.
Viana, G. M.; Priestman, D. A.; Platt, F. M.; Khan, S.; Tomatsu, S.; Pshezhetsky, A. V.
J Clin Med 2020: 9, 2.
http://dx.doi.org/10.3390/jcm9020396

Early intraneuronal amyloid triggers neuron-derived inflammatory signaling in APP transgenic rats and human brain.
Welikovitch, L. A.; Do Carmo, S.; Maglóczky, Z.; Malcolm, J. C.; Lőke, J.; Klein, W. L.; Freund, T.; Cuello, A. C.
Proc Natl Acad Sci U S A 2020: 117, 12, 6844-6854.
http://dx.doi.org/10.1073/pnas.1914593117

Regioisomeric family of novel fluorescent substrates for SHIP2.
White, G.; Prior, C.; Mills, S. J.; Baker, K.; Whitfield, H.; Riley, A. M.; Oganesyan, V. S.; Potter, B. V. L.; Brearley, C. A.
ACS Med Chem Lett 2020: 11, 3, 309-315.
http://dx.doi.org/10.1021/acsmedchemlett.9b00368

An ATP-responsive metabolic cassette comprised of inositol tris/tetrakisphosphate kinase 1 (ITPK1) and inositol pentakisphosphate 2-kinase (IPK1) buffers diphosphosphoinositol phosphate levels.
Whitfield, H.; White, G.; Sprigg, C.; Riley, A. M.; Potter, B. V. L.; Hemmings, A. M.; Brearley, C. A.
Biochem J 2020: 477, 14, 2621-2638.
http://dx.doi.org/10.1042/bcj20200423

Chemical proteomics and phenotypic profiling identifies the aryl hydrocarbon receptor as a molecular target of the utrophin modulator ezutromid.
Wilkinson, I. V. L.; Perkins, K. J.; Dugdale, H.; Moir, L.; Vuorinen, A.; Chatzopoulou, M.; Squire, S. E.; Monecke, S.; Lomow, A.; Geese, M.; et al.
Angew Chem Int Ed Engl 2020: 59, 6, 2420-2428.
http://dx.doi.org/10.1002/anie.201912392

Characterisation of utrophin modulator SMTCc1100 as a non-competitive inhibitor of firefly luciferase.
Wilkinson, I. V. L.; Reynolds, J. K.; Galan, S. R. G.; Vuorinen, A.; Sills, A. J.; Pires, E.; Wynne, G. M.; Wilson, F. X.; Russell, A. J.
Bioorg Chem 2020: 94, 103395.
http://dx.doi.org/10.1016/j.bioorg.2019.103395

Combining experimental strategies for successful target deconvolution.
Wilkinson, I. V. L.; Terstappen, G. C.; Russell, A. J.
Drug Discov Today 2020.
http://dx.doi.org/10.1016/j.drudis.2020.09.016

Repopulating microglia promote brain repair in an il-6-dependent manner.
Willis, E. F.; MacDonald, K. P. A.; Nguyen, Q. H.; Garrido, A. L.; Gillespie, E. R.; Harley, S. B. R.; Bartlett, P. F.; Schroder, W. A.; Yates, A. G.; Anthony, D. C.; et al.
Cell 2020: 180, 5, 833-846.e816.
http://dx.doi.org/10.1016/j.cell.2020.02.013

NP03, a microdose lithium formulation, blunts early amyloid post-plaque neuropathology in Mcgill-R-THY1-APP Alzheimer-like transgenic rats.
Wilson, E. N.; Do Carmo, S.; Welikovitch, L. A.; Hall, H.; Aguilar, L. F.; Foret, M. K.; Iulita, M. F.; Jia, D. T.; Marks, A. R.; Allard, S.; et al.
J Alzheimers Dis 2020: 73, 2, 723-739.
http://dx.doi.org/10.3233/jad-190862

Molecular basis for a new bovine model of Niemann-Pick type C disease.
Woolley, S. A.; Tsimnadis, E. R.; Lenghaus, C.; Healy, P. J.; Walker, K.; Morton, A.; Khatkar, M. S.; Elliott, A.; Kaya, E.; Hoerner, C.; et al.
PLoS One 2020: 15, 9, e0238697.
http://dx.doi.org/10.1371/journal.pone.0238697

A blood-based metabolomics test to distinguish relapsing-remitting and secondary progressive multiple sclerosis: Addressing practical considerations for clinical application.
Yeo, T.; Sealey, M.; Zhou, Y.; Saldana, L.; Loveless, S.; Claridge, T. D. W.; Robertson, N.; DeLuca, G.; Palace, J.; Anthony, D. C.; et al.
Sci Rep 2020: 10, 1, 12381.
http://dx.doi.org/10.1038/s41598-020-69119-3

A community-based transcriptomics classification and nomenclature of neocortical cell types.
Yuste, R.; Hawrylycz, M.; Aalling, N.; Aguilar-Valles, A.; Arendt, D.; Armañanzas, R.; Ascoli, G. A.; Bielza, C.; Bokharaie, V.; Bergmann, T. B.; et al.
Nat Neurosci 2020: 23, 12, 1456-1468.
http://dx.doi.org/10.1038/s41593-020-0685-8

Generation of three IPSC lines (xachi007-a, xachi008-a, xachi009-a) from a Chinese family with long QT syndrome type 5 with heterozygous c.226g>a (p.D76n) mutation in KCNE1gene.
Zhang, Y.; Li, H.; Wang, J.; Wang, G.; Tan, X.; Lei, M.
Stem Cell Res 2020: 45, 101798.
http://dx.doi.org/10.1016/j.scr.2020.101798

Generation of two induced pluripotent stem cell lines (xachi0010-a, xachi0011-a) from a Chinese family with combined oxidative phosphorylation deficiency carrying homozygous and heterozygous c1qbp-l275f mutation.
Zhang, Y.; Wang, J.; Zhou, Y.; Li, H.; Li, A.; Tan, X.; Wang, G.; Lei, M.
Stem Cell Res 2020: 47, 101912.
http://dx.doi.org/10.1016/j.scr.2020.101912

Department of Pharmacology, University of Oxford

Publications 2021

TPC2 targeting evolution: Leveraging therapeutic opportunities for cancer.
Alharbi, A. F.; Parrington, J.
Cell Chem Biol 2021: 28, 8, 1103-1105.
http://dx.doi.org/10.1016/j.chembiol.2021.07.020

The role of genetic polymorphisms in endolysosomal ion channels TPC2 and P2RX4 in cancer pathogenesis, prognosis, and diagnosis: A genetic association in the UK Biobank.
Alharbi, A. F.; Parrington, J.
NPJ Genom Med 2021: 6, 1, 58.
http://dx.doi.org/10.1038/s41525-021-00221-9

Deciphering the role of endolysosomal Ca(2+) channels in immunity.
Alharbi, A. F.; Parrington, J.
Front Immunol 2021: 12, 656965.
http://dx.doi.org/10.3389/fimmu.2021.656965

Deciphering the role of Ca(2+) signalling in cancer metastasis: From the bench to the bedside.
Alharbi, A.; Zhang, Y.; Parrington, J.
Cancers (Basel) 2021: 13, 2.
http://dx.doi.org/10.3390/cancers13020179

Changes in plasma fatty acids and related biomarkers during transition to an exclusively plant- and fish-based diet in healthy adults.
Alshahawy, R.; Habachi, N. E.; Allam, E.; Jernerén, F.; Refsum, H.; Elshorbagy, A.
Nutrition 2021: 90, 111306.
http://dx.doi.org/10.1016/j.nut.2021.111306

Contributing to understand the crosstalk between brain and periphery in methylmercury intoxication: Neurotoxicity and extracellular vesicles.
Arrifano, G. P.; Augusto-Oliveira, M.; Sealey-Bright, M.; Zainal, J.; Imbiriba, L.; Fernandes, L. M. P.; Maia, C. S. F.; Anthony, D.; Crespo-Lopez, M. E.
Int J Mol Sci 2021: 22, 19.
http://dx.doi.org/10.3390/ijms221910855

A modified density gradient proteomic-based method to analyze endolysosomal proteins in cardiac tissue.
Ayagama, T.; Bose, S. J.; Capel, R. A.; Priestman, D. A.; Berridge, G.; Fischer, R.; Galione, A.; Platt, F. M.; Kramer, H.; Burton, R. A. B.
iScience 2021: 24, 9, 102949.
http://dx.doi.org/10.1016/j.isci.2021.102949

International union of basic and clinical pharmacology. Cx. Classification of receptors for 5-hydroxytryptamine; pharmacology and function.
Barnes, N. M.; Ahern, G. P.; Becamel, C.; Bockaert, J.; Camilleri, M.; Chaumont-Dubel, S.; Claeysen, S.; Cunningham, K. A.; Fone, K. C.; Gershon, M.; et al.
Pharmacol Rev 2021: 73, 1, 310-520.
http://dx.doi.org/10.1124/pr.118.015552

Biomarkers of clinician burnout.
Begin, A. S.; Hata, S.; Berkowitz, L. R.; Plessow, F.; Lawson, E. A.; Emptage, N.; Armstrong, K.
J Gen Intern Med 2022: 37, 2, 478-479.
http://dx.doi.org/10.1007/s11606-021-06757-x

Phospholemman phosphorylation regulates vascular tone, blood pressure, and hypertension in mice and humans.
Boguslavskyi, A.; Tokar, S.; Prysyazhna, O.; Rudyk, O.; Sanchez-Tatay, D.; Lemmey, H. A. L.; Dora, K. A.; Garland, C. J.; Warren, H. R.; Doney, A.; et al.
Circulation 2021: 143, 11, 1123-1138.
http://dx.doi.org/10.1161/circulationaha.119.040557

A tribute to professor Sir Michael j. Berridge FRS (1938-2020).
Bootman, M. D.; Galione, A.; Taylor, C. W.
Biochim Biophys Acta Mol Cell Res 2021: 1868, 6, 119014.
http://dx.doi.org/10.1016/j.bbamcr.2021.119014

High spatial and temporal resolution Ca(2+) imaging of myocardial strips from human, pig and rat.
Borysova, L.; Ng, Y. Y. H.; Wragg, E. S.; Wallis, L. E.; Fay, E.; Ascione, R.; Dora, K. A.
Nat Protoc 2021: 16, 10, 4650-4675.
http://dx.doi.org/10.1038/s41596-021-00590-6

Emerging evidence for camp-calcium cross talk in heart atrial nanodomains where IP3-evoked calcium release stimulates adenylyl cyclases.
Burton, R. A. B.; Terrar, D. A.
CONTACT 2021.
http://dx.doi.org/10.1177/25152564211008341

Disrupting epileptiform activity by preventing parvalbumin interneuron depolarization block.
Călin, A.; Ilie, A. S.; Akerman, C. J.
J Neurosci 2021: 41, 45, 9452-9465.
http://dx.doi.org/10.1523/jneurosci.1002-20.2021

IpP3-mediated Ca(2+) release regulates atrial Ca(2+) transients and pacemaker function by stimulation of adenylyl cyclases.
Capel, R. A.; Bose, S. J.; Collins, T. P.; Rajasundaram, S.; Ayagama, T.; Zaccolo, M.; Burton, R. B.; Terrar, D. A.
Am J Physiol Heart Circ Physiol 2021: 320, 1, H95-h107.
http://dx.doi.org/10.1152/ajpheart.00380.2020

Microglial morphology across distantly related species: Phylogenetic, environmental and age influences on microglia reactivity and surveillance states.
Carvalho-Paulo, D.; Bento Torres Neto, J.; Filho, C. S.; de Oliveira, T. C. G.; de Sousa, A. A.; Dos Reis, R. R.; Dos Santos, Z. A.; de Lima, C. M.; de Oliveira, M. A.; Said, N. M.; et al.
Front Immunol 2021: 12, 683026.
http://dx.doi.org/10.3389/fimmu.2021.683026

Cancer therapy-induced cardiotoxicity-a metabolic perspective on pathogenesis, diagnosis and therapy.
Choksey, A.; Timm, K. N.
Int J Mol Sci 2021: 23, 1.
http://dx.doi.org/10.3390/ijms23010441

Acetylation turns leucine into a drug by membrane transporter switching.
Churchill, G. C.; Strupp, M.; Factor, C.; Bremova-Ertl, T.; Factor, M.; Patterson, M. C.; Platt, F. M.; Galione, A.
Sci Rep 2021: 11, 1, 15812.
http://dx.doi.org/10.1038/s41598-021-95255-5

An IPSC model of hereditary sensory neuropathy-1 reveals l-serine-responsive deficits in neuronal ganglioside composition and axoglial interactions.
Clark, A. J.; Kugathasan, U.; Baskozos, G.; Priestman, D. A.; Fugger, N.; Lone, M. A.; Othman, A.; Chu, K. H.; Blesneac, I.; Wilson, E. R.; et al.
Cell Rep Med 2021: 2, 7, 100345.
http://dx.doi.org/10.1016/j.xcrm.2021.100345

Structure, mechanism, and inhibition of Hedgehog acyltransferase.
Coupland, C. E.; Andrei, S. A.; Ansell, T. B.; Carrique, L.; Kumar, P.; Sefer, L.; Schwab, R. A.; Byrne, E. F. X.; Pardon, E.; Steyaert, J.; et al.
Mol Cell 2021: 81, 24, 5025-5038.e5010.
http://dx.doi.org/10.1016/j.molcel.2021.11.018

Leslie iversen, a friend of friends and an inspiring light in neuropharmacology.
Cuello, A. C.
Proc Natl Acad Sci U S A 2021: 118, 32.
http://dx.doi.org/10.1073/pnas.2111813118

Extended range and aberration-free autofocusing via remote focusing and sequence-dependent learning.
Cui, J.; Turcotte, R.; Emptage, N. J.; Booth, M. J.
Opt Express 2021: 29, 22, 36660-36674.
http://dx.doi.org/10.1364/oe.442025

In-depth phenotyping for clinical stratification of Gaucher disease.
D'Amore, S.; Page, K.; Donald, A.; Taiyari, K.; Tom, B.; Deegan, P.; Tan, C. Y.; Poole, K.; Jones, S. A.; Mehta, A.; et al.
Orphanet J Rare Dis 2021: 16, 1, 431.
http://dx.doi.org/10.1186/s13023-021-02034-6

Sedentary life and reduced mastication impair spatial learning and memory and differentially affect dentate gyrus astrocyte subtypes in the aged mice.
de Siqueira Mendes, F. C. C.; Paixão, L.; Diniz, D. G.; Anthony, D. C.; Brites, D.; Diniz, C. W. P.; Sosthenes, M. C. K.
Front Neurosci 2021: 15, 632216.
http://dx.doi.org/10.3389/fnins.2021.632216

An outer-pore gate modulates the pharmacology of the TMEM16A channel.
Dinsdale, R. L.; Pipatpolkai, T.; Agostinelli, E.; Russell, A. J.; Stansfeld, P. J.; Tammaro, P.
Proc Natl Acad Sci U S A 2021: 118, 34.
http://dx.doi.org/10.1073/pnas.2023572118

Nerve growth factor compromise in Down syndrome.
Do Carmo, S.; Kannel, B.; Cuello, A. C.
Front Aging Neurosci 2021: 13, 719507.
http://dx.doi.org/10.3389/fnagi.2021.719507

The nerve growth factor metabolic pathway dysregulation as cause of Alzheimer's cholinergic atrophy.
Do Carmo, S.; Kannel, B.; Cuello, A. C.
Cells 2021: 11, 1. http://dx.doi.org/10.3390/cells11010016

Editorial: Tau pathology in neurological disorders.
Do Carmo, S.; Spillantini, M. G.; Cuello, A. C.
Front Neurol 2021: 12, 754669.
http://dx.doi.org/10.3389/fneur.2021.754669

Identification of genetic modifiers of murine hepatic β-glucocerebrosidase activity.
Durán, A.; Rebolledo-Jaramillo, B.; Olguin, V.; Rojas-Herrera, M.; Las Heras, M.; Calderón, J. F.; Zanlungo, S.; Priestman, D. A.; Platt, F. M.; Klein, A. D.
Biochem Biophys Rep 2021: 28, 101105.
http://dx.doi.org/10.1016/j.bbrep.2021.101105

Extracellular cystine influences human preadipocyte differentiation and correlates with fat mass in healthy adults.
Elkafrawy, H.; Mehanna, R.; Ali, F.; Barghash, A.; Dessouky, I.; Jernerén, F.; Turner, C.; Refsum, H.; Elshorbagy, A.
Amino Acids 2021: 53, 10, 1623-1634.
http://dx.doi.org/10.1007/s00726-021-03071-y

Selective estrogen receptor modulators (SERMS) affect cholesterol homeostasis through the master regulators srebp and lxr.
Fernández-Suárez, M. E.; Daimiel, L.; Villa-Turégano, G.; Pavón, M. V.; Busto, R.; Escolà-Gil, J. C.; Platt, F. M.; Lasunción, M. A.; Martínez-Botas, J.; Gómez-Coronado, D.
Biomed Pharmacother 2021: 141, 111871.
http://dx.doi.org/10.1016/j.biopha.2021.111871

Tonic GABA(A) receptor-mediated currents of human cortical GABAergic interneurons vary amongst cell types.
Field, M.; Lukacs, I. P.; Hunter, E.; Stacey, R.; Plaha, P.; Livermore, L.; Ansorge, O.; Somogyi, P.
J Neurosci 2021: 41, 47, 9702-9719.
http://dx.doi.org/10.1523/jneurosci.0175-21.2021

A master protocol to investigate a novel therapy acetyl-l-leucine for three ultra-rare neurodegenerative diseases: Niemann-Pick type C, the GM2 gangliosidoses, and ataxia telangiectasia.
Fields, T.; Patterson, M.; Bremova-Ertl, T.; Belcher, G.; Billington, I.; Churchill, G. C.; Davis, W.; Evans, W.; Flint, S.; Galione, A.; et al.
Trials 2021: 22, 1, 84.
http://dx.doi.org/10.1186/s13063-020-05009-3

Cognitive and brain cytokine profile of non-demented individuals with cerebral amyloid-beta deposition.
Flores-Aguilar, L.; Iulita, M. F.; Orciani, C.; Tanna, N.; Yang, J.; Bennett, D. A.; Cuello, A. C.
J Neuroinflammation 2021: 18, 1, 147.
http://dx.doi.org/10.1186/s12974-021-02169-0

A cellular protection racket: How lysosomal Ca(2+) fluxes prevent kidney injury.
Galione, A.; Davis, L. C.; Morgan, A. J.
Cell Calcium 2021: 93, 102328.
http://dx.doi.org/10.1016/j.ceca.2020.102328

Endothelium-dependent hyperpolarization: The evolution of myoendothelial microdomains.
Garland, C. J.; Dora, K. A.
J Cardiovasc Pharmacol 2021: 78, Suppl 6, S3-s12.
http://dx.doi.org/10.1097/fjc.0000000000001087

Spike-1: A randomised phase ii/iii trial in a community setting, assessing use of camostat in reducing the clinical progression of covid-19 by blocking sars-cov-2 spike protein-initiated membrane fusion.
Halford, S.; Wan, S.; Dragoni, I.; Silvester, J.; Nazarov, B.; Anthony, D.; Anthony, S.; Ladds, E.; Norrie, J.; Dhaliwal, K.
Trials 2021: 22, 1, 550.
http://dx.doi.org/10.1186/s13063-021-05461-9

Future avenues for Alzheimer's disease detection and therapy: Liquid biopsy, intracellular signaling modulation, systems pharmacology drug discovery.
Hampel, H.; Vergallo, A.; Caraci, F.; Cuello, A. C.; Lemercier, P.; Vellas, B.; Giudici, K. V.; Baldacci, F.; Hänisch, B.; Haberkamp, M.; et al.
Neuropharmacology 2021: 185, 108081.
http://dx.doi.org/10.1016/j.neuropharm.2020.108081

A dataset of dual calcium and voltage optical mapping in healthy and hypertrophied murine hearts.
He, S.; Kou, K.; O'Shea, C.; Chen, T.; Mu, U. M. R.; Dong, R.; Ren, H.; Zhou, X.; Fan, Z.; Tan, X.; et al.
Sci Data 2021: 8, 1, 314.
http://dx.doi.org/10.1038/s41597-021-01085-5

Glucose and naadp trigger elementary intracellular β-cell Ca(2+) signals.
Heister, P. M.; Powell, T.; Galione, A.
Sci Rep 2021: 11, 1, 10714.
http://dx.doi.org/10.1038/s41598-021-88906-0

Stage-stratified molecular profiling of non-muscle-invasive bladder cancer enhances biological, clinical, and therapeutic insight.
Hurst, C. D.; Cheng, G.; Platt, F. M.; Castro, M. A. A.; Marzouka, N. S.; Eriksson, P.; Black, E. V. I.; Alder, O.; Lawson, A. R. J.; Lindskrog, S. V.; et al.
Cell Rep Med 2021: 2, 12, 100472.
http://dx.doi.org/10.1016/j.xcrm.2021.100472

Adenosine integrates light and sleep signalling for the regulation of circadian timing in mice.
Jagannath, A.; Varga, N.; Dallmann, R.; Rando, G.; Gosselin, P.; Ebrahimjee, F.; Taylor, L.; Mosneagu, D.; Stefaniak, J.; Walsh, S.; et al.
Nat Commun 2021: 12, 1, 2113.
http://dx.doi.org/10.1038/s41467-021-22179-z

B vitamins prevent iron-associated brain atrophy and domain-specific effects of iron, copper, aluminum, and silicon on cognition in mild cognitive impairment.
Jakubowski, H.; Zioła-Frankowska, A.; Frankowski, M.; Perła-Kaján, J.; Refsum, H.; de Jager, C. A.; Smith, A. D.
J Alzheimers Dis 2021: 84, 3, 1039-1055.
http://dx.doi.org/10.3233/jad-215085

Identification and preliminary structure-activity relationship studies of 1,5-dihydrobenzo[e][1,4]oxazepin-2(3h)-ones that induce differentiation of acute myeloid leukemia cells in vitro.
Josa-Culleré, L.; Cogswell, T. J.; Georgiou, I.; Jay-Smith, M.; Jackson, T. R.; Bataille, C. J. R.; Davies, S. G.; Vyas, P.; Milne, T. A.; Wynne, G. M.; et al.
Molecules 2021: 26, 21.
http://dx.doi.org/10.3390/molecules26216648

A phenotypic screen identifies a compound series that induces differentiation of acute myeloid leukemia cells in vitro and shows antitumor effects in vivo.
Josa-Culleré, L.; Madden, K. S.; Cogswell, T. J.; Jackson, T. R.; Carter, T. S.; Zhang, D.; Trevitt, G.; Davies, S. G.; Vyas, P.; Wynne, G. M.; et al.
J Med Chem 2021: 64, 21, 15608-15628.
http://dx.doi.org/10.1021/acs.jmedchem.1c00574

Ion channels as convergence points in the pathology of pulmonary arterial hypertension.
Jouen-Tachoire, T. R. H.; Tucker, S. J.; Tammaro, P.
Biochem Soc Trans 2021: 49, 4, 1855-1865.
http://dx.doi.org/10.1042/bst20210538

Proteome-wide analysis of protein lipidation using chemical probes: In-gel fluorescence visualization, identification and quantification of N-myristoylation, N- and S-acylation, O-cholesterylation,Ss-farnesylation and S-geranylgeranylation.
Kallemeijn, W. W.; Lanyon-Hogg, T.; Panyain, N.; Goya Grocin, A.; Ciepla, P.; Morales-Sanfrutos, J.; Tate, E. W.
Nat Protoc 2021: 16, 11, 5083-5122.
http://dx.doi.org/10.1038/s41596-021-00601-6

Acetyl-leucine slows disease progression in lysosomal storage disorders.
Kaya, E.; Smith, D. A.; Smith, C.; Morris, L.; Bremova-Ertl, T.; Cortina-Borja, M.; Fineran, P.; Morten, K. J.; Poulton, J.; Boland, B.; et al. *Brain Commun* 2021: 3, 1, fcaa148.
http://dx.doi.org/10.1093/braincomms/fcaa148

A role for the cortex in sleep-wake regulation.
Krone, L. B.; Yamagata, T.; Blanco-Duque, C.; Guillaumin, M. C. C.; Kahn, M. C.; van der Vinne, V.; McKillop, L. E.; Tam, S. K. E.; Peirson, S. N.; Akerman, C. J.; et al.
Nat Neurosci 2021: 24, 9, 1210-1215.
http://dx.doi.org/10.1038/s41593-021-00894-6

Targeting the bacterial sos response for new antimicrobial agents: Drug targets, molecular mechanisms and inhibitors.
Lanyon-Hogg, T.
Future Med Chem 2021: 13, 2, 143-155. http://dx.doi.org/10.4155/fmc-2020-0310

Photochemical probe identification of a small-molecule inhibitor binding site in Hedgehog acyltransferase HHAT)*.
Lanyon-Hogg, T.; Ritzefeld, M.; Zhang, L.; Andrei, S. A.; Pogranyi, B.; Mondal, M.; Sefer, L.; Johnston, C. D.; Coupland, C. E.; Greenfield, J. L.; et al.
Angew Chem Int Ed Engl 2021: 60, 24, 13542-13547.
http://dx.doi.org/10.1002/anie.202014457

NGF-TrkA signaling dictates neural ingrowth and aberrant osteochondral differentiation after soft tissue trauma.
Lee, S.; Hwang, C.; Marini, S.; Tower, R. J.; Qin, Q.; Negri, S.; Pagani, C. A.; Sun, Y.; Stepien, D. M.; Sorkin, M.; et al.
Nat Commun 2021: 12, 1, 4939.
http://dx.doi.org/10.1038/s41467-021-25143-z

Unwanted exacerbation of the immune response in neurodegenerative disease: A time to review the impact.
Leite, A. O. F.; Bento Torres Neto, J.; Dos Reis, R. R.; Sobral, L. L.; de Souza, A. C. P.; Trévia, N.; de Oliveira, R. B.; Lins, N. A. A.; Diniz, D. G.; Diniz, J. A. P.; et al.
Front Cell Neurosci 2021: 15, 749595.
http://dx.doi.org/10.3389/fncel.2021.749595

2-methoxyestradiol and its derivatives inhibit store-operated Ca(2+) entry in t cells: Identification of a new and potent inhibitor.
Löhndorf, A.; Hosang, L.; Dohle, W.; Odoardi, F.; Waschkowski, S. A.; Rosche, A.; Bauche, A.; Winzer, R.; Tolosa, E.; Windhorst, S.; et al.
Biochim Biophys Acta Mol Cell Res 2021: 1868, 6, 118988.
http://dx.doi.org/10.1016/j.bbamcr.2021.118988

Multiple substrate recognition by yeast diadenosine and diphosphoinositol polyphosphate phosphohydrolase through phosphate clamping.
Márquez-Moñino, M.; Ortega-García, R.; Shipton, M. L.; Franco-Echevarría, E.; Riley, A. M.; Sanz-Aparicio, J.; Potter, B. V. L.; González, B.
Sci Adv 2021: 7, 17.
http://dx.doi.org/10.1126/sciadv.abf6744

Choreographing endo-lysosomal Ca(2+) throughout the life of a phagosome.
Morgan, A. J.; Davis, L. C.; Galione, A.
Biochim Biophys Acta Mol Cell Res 2021: 1868, 7, 119040.
http://dx.doi.org/10.1016/j.bbamcr.2021.119040

Lysosomal agents inhibit store-operated Ca(2+) entry.
Morgan, A. J.; Galione, A.
J Cell Sci 2021: 134, 2.
http://dx.doi.org/10.1242/jcs.248658

N-phenyl-1,2,3,4-tetrahydroisoquinoline: An alternative scaffold for the design of 17β-hydroxysteroid dehydrogenase 1 inhibitors.
Mottinelli, M.; Sinreih, M.; Rižner, T. L.; Leese, M. P.; Potter, B. V. L.
ChemMedChem 2021: 16, 1, 259-291.
http://dx.doi.org/10.1002/cmdc.202000762

Generation of nonmosaic, two-pore channel 2 biallelic knockout pigs in one generation by crispr-cas9 microinjection before oocyte insemination.
Navarro-Serna, S.; Hachem, A.; Canha-Gouveia, A.; Hanbashi, A.; Garrappa, G.; Lopes, J. S.; París-Oller, E.; Sarrías-Gil, L.; Flores-Flores, C.; Bassett, A.; et al.
Crispr j 2021: 4, 1, 132-146.
http://dx.doi.org/10.1089/crispr.2020.0078

GM1 gangliosidosis-a mini-review.
Nicoli, E. R.; Annunziata, I.; d'Azzo, A.; Platt, F. M.; Tifft, C. J.; Stepien, K. M.
Front Genet 2021: 12, 734878. http://dx.doi.org/10.3389/fgene.2021.734878

Effects of short-term methionine and cysteine restriction and enrichment with polyunsaturated fatty acids on oral glucose tolerance, plasma amino acids, fatty acids, lactate and pyruvate: Results from a pilot study.
Olsen, T.; Øvrebø, B.; Turner, C.; Bastani, N. E.; Refsum, H.; Vinknes, K. J.
BMC Res Notes 2021: 14, 1, 43.
http://dx.doi.org/10.1186/s13104-021-05463-5

Oxytocin influences male sexual activity via non-synaptic axonal release in the spinal cord.
Oti, T.; Satoh, K.; Uta, D.; Nagafuchi, J.; Tateishi, S.; Ueda, R.; Takanami, K.; Young, L. J.; Galione, A.; Morris, J. F.; et al.
Curr Biol 2021: 31, 1, 103-114.e105.
http://dx.doi.org/10.1016/j.cub.2020.09.089

Mind shift: How culture transformed the human brain
Parrington, J.
Oxford: OUP 2021. 544pp.
Mind Shift - Hardback - John Parrington - Oxford University Press (oup.com)

Structural requirements for dihydrobenzoxazepinone anthelmintics: Actions against medically important and model parasites: Trichuris muris, brugia malayi, heligmosomoides polygyrus, and schistosoma mansoni.
Partridge, F. A.; Bataille, C. J. R.; Forman, R.; Marriott, A. E.; Forde-Thomas, J.; Häberli, C.; Dinsdale, R. L.; O'Sullivan, J. D. B.; Willis, N. J.; Wynne, G. M.; et al.
ACS Infect Dis 2021: 7, 5, 1260-1274.
http://dx.doi.org/10.1021/acsinfecdis.1c00025

The human brain NGF metabolic pathway is impaired in the pre-clinical and clinical continuum of Alzheimers disease.
Pentz, R.; Iulita, M. F.; Ducatenzeiler, A.; Bennett, D. A.; Cuello, A. C.
Mol Psychiatry 2021: 26, 10, 6023-6037.
http://dx.doi.org/10.1038/s41380-020-0797-2

Nerve growth factor (NGF) pathway biomarkers in Down syndrome prior to and after the onset of clinical Alzheimer's disease: A paired CSF and plasma study.
Pentz, R.; Iulita, M. F.; Ducatenzeiler, A.; Videla, L.; Benejam, B.; Carmona-Iragui, M.; Blesa, R.; Lleó, A.; Fortea, J.; Cuello, A. C.
Alzheimers Dement 2021: 17, 4, 605-617.
http://dx.doi.org/10.1002/alz.12229

Paraoxonase-1, B vitamins supplementation, and mild cognitive impairment.
Perła-Kaján, J.; Włoczkowska, O.; Zioła-Frankowska, A.; Frankowski, M.; Smith, A. D.; de Jager, C. A.; Refsum, H.; Jakubowski, H.
J Alzheimers Dis 2021: 81, 3, 1211-1229.
http://dx.doi.org/10.3233/jad-210137

Targeted single-cell rna sequencing of transcription factors enhances the identification of cell types and trajectories.
Pokhilko, A.; Handel, A. E.; Curion, F.; Volpato, V.; Whiteley, E. S.; Bøstrand, S.; Newey, S. E.; Akerman, C. J.; Webber, C.; Clark, M. B.; et al.
Genome Res 2021: 31, 6, 1069-1081.
http://dx.doi.org/10.1101/gr.273961.120

Integrative biochemical, proteomics and metabolomics cerebrospinal fluid biomarkers predict clinical conversion to multiple sclerosis.
Probert, F.; Yeo, T.; Zhou, Y.; Sealey, M.; Arora, S.; Palace, J.; Claridge, T. D. W.; Hillenbrand, R.; Oechtering, J.; Leppert, D.; et al.
Brain Commun 2021: 3, 2, fcab084.
http://dx.doi.org/10.1093/braincomms/fcab084

Vesicle cholesterol controls exocytotic fusion pore.
Rituper, B.; Guček, A.; Lisjak, M.; Gorska, U.; Šakanović, A.; Bobnar, S. T.; Lasič, E.; Božić, M.; Abbineni, P. S.; Jorgačevski, J.; et al.
Cell Calcium 2022: 101, 102503.
http://dx.doi.org/10.1016/j.ceca.2021.102503

Transcriptome of HPβCD-treated Niemann-Pick disease type C1 cells highlights GPNMB as a biomarker for therapeutics.
Rodriguez-Gil, J. L.; Baxter, L. L.; Watkins-Chow, D. E.; Johnson, N. L.; Davidson, C. D.; Carlson, S. R.; Incao, A. A.; Wallom, K. L.; Farhat, N. Y.; Platt, F. M.; et al.
Hum Mol Genet 2021: 30, 24, 2456-2468.
http://dx.doi.org/10.1093/hmg/ddab194

Lipid-mediated impairment of axonal lysosome transport contributing to autophagic stress.
Roney, J. C.; Li, S.; Farfel-Becker, T.; Huang, N.; Sun, T.; Xie, Y.; Cheng, X. T.; Lin, M. Y.; Platt, F. M.; Sheng, Z. H.
Autophagy 2021: 17, 7, 1796-1798.
http://dx.doi.org/10.1080/15548627.2021.1938916

Lipid-mediated motor-adaptor sequestration impairs axonal lysosome delivery leading to autophagic stress and dystrophy in Niemann-Pick type C.
Roney, J. C.; Li, S.; Farfel-Becker, T.; Huang, N.; Sun, T.; Xie, Y.; Cheng, X. T.; Lin, M. Y.; Platt, F. M.; Sheng, Z. H.
Dev Cell 2021: 56, 10, 1452-1468.e1458.
http://dx.doi.org/10.1016/j.devcel.2021.03.032

Anti-CD20 disrupts meningeal B-cell aggregates in a model of secondary progressive multiple sclerosis.
Roodselaar, J.; Zhou, Y.; Leppert, D.; Hauser, A. E.; Urich, E.; Anthony, D. C.
Neurol Neuroimmunol Neuroinflamm 2021: 8, 3.
http://dx.doi.org/10.1212/nxi.0000000000000975

Quantal Ca(2+) release mediated by very few IP(3) receptors that rapidly inactivate allows graded responses to IP(3).
Rossi, A. M.; Riley, A. M.; Dupont, G.; Rahman, T.; Potter, B. V. L.; Taylor, C. W.
Cell Rep 2021: 37, 5, 109932.
http://dx.doi.org/10.1016/j.celrep.2021.109932

Patient fibroblast circadian rhythms predict lithium sensitivity in bipolar disorder.
Sanghani, H. R.; Jagannath, A.; Humberstone, T.; Ebrahimjee, F.; Thomas, J. M.; Churchill, G. C.; Cipriani, A.; Attenburrow, M. J.; Perestenko, O. V.; Cowley, S. A.; et al.
Mol Psychiatry 2021: 26, 9, 5252-5265.
http://dx.doi.org/10.1038/s41380-020-0769-6

L-carnitine stimulates in vivo carbohydrate metabolism in the type 1 diabetic heart as demonstrated by hyperpolarized MRI.
Savic, D.; Ball, V.; Curtis, M. K.; Sousa Fialho, M. D. L.; Timm, K. N.; Hauton, D.; West, J.; Griffin, J.; Heather, L. C.; Tyler, D. J.
Metabolites 2021: 11, 3.
http://dx.doi.org/10.3390/metabo11030191

Anti-amyloid trials raise scientific and ethical questions.
Smith, A. D.
BMJ 2021: 372, n805. http://dx.doi.org/10.1136/bmj.n805

Ω-3 fatty acids and their interactions.
Smith, A. D.; Jernerén, F.; Refsum, H.
Am J Clin Nutr 2021: 113, 4, 775-778.
http://dx.doi.org/10.1093/ajcn/nqab013

Homocysteine - from disease biomarker to disease prevention.
Smith, A. D.; Refsum, H.
J Intern Med 2021: 290, 4, 826-854. http://dx.doi.org/10.1111/joim.13279

Postnatal prebiotic supplementation in rats affects adult anxious behaviour, hippocampus, electrophysiology, metabolomics, and gut microbiota.
Spitzer, S. O.; Tkacz, A.; Savignac, H. M.; Cooper, M.; Giallourou, N.; Mann, E. O.; Bannerman, D. M.; Swann, J. R.; Anthony, D. C.; Poole, P. S.; et al.
iScience 2021: 24, 10, 103113.
http://dx.doi.org/10.1016/j.isci.2021.103113

Sulfur amino acid restriction, energy metabolism and obesity: A study protocol of an 8-week randomized controlled dietary intervention with whole foods and amino acid supplements.
Stolt, E.; Olsen, T.; Elshorbagy, A.; Kožich, V.; van Greevenbroek, M.; Øvrebø, B.; Thoresen, M.; Refsum, H.; Retterstøl, K.; Vinknes, K. J.
J Transl Med 2021: 19, 1, 153.
http://dx.doi.org/10.1186/s12967-021-02824-3

ASD-like behaviors, a dysregulated inflammatory response and decreased expression of plp1 characterize mice deficient for sialyltransferase ST3GAL5.
Strekalova, T.; Svirin, E.; Veniaminova, E.; Kopeikina, E.; Veremeyko, T.; Yung, A. W. Y.; Proshin, A.; Walitza, S.; Anthony, D. C.; Lim, L. W.; et al.
Brain Behav Immun Health 2021: 16, 100306.
http://dx.doi.org/10.1016/j.bbih.2021.100306

Altered behaviour, dopamine and norepinephrine regulation in stressed mice heterozygous in TPH2 gene.
Strekalova, T.; Svirin, E.; Waider, J.; Gorlova, A.; Cespuglio, R.; Kalueff, A.; Pomytkin, I.; Schmitt-Boehrer, A. G.; Lesch, K. P.; Anthony, D. C.
Prog Neuropsychopharmacol Biol Psychiatry 2021: 108, 110155.
http://dx.doi.org/10.1016/j.pnpbp.2020.110155

Sex-specific adhd-like behaviour, altered metabolic functions, and altered EEG activity in sialyltransferase ST3GAL5-deficient mice.
Strekalova, T.; Veniaminova, E.; Svirin, E.; Kopeikina, E.; Veremeyko, T.; Yung, A. W. Y.; Proshin, A.; Tan, S. Z. K.; Khairuddin, S.; Lim, L. W.; et al.
Biomolecules 2021: 11, 12.
http://dx.doi.org/10.3390/biom11121759

Heart neurons use clock genes to control myocyte proliferation.
Tampakakis, E.; Gangrade, H.; Glavaris, S.; Htet, M.; Murphy, S.; Lin, B. L.; Liu, T.; Saberi, A.; Miyamoto, M.; Kowalski, W.; et al.
Sci Adv 2021: 7, 49, eabh4181.
http://dx.doi.org/10.1126/sciadv.abh4181

Long-term depression links amyloid-β to the pathological hyperphosphorylation of tau.
Taylor, H. B. C.; Emptage, N. J.; Jeans, A. F.
Cell Rep 2021: 36, 9, 109638.
http://dx.doi.org/10.1016/j.celrep.2021.109638

Striatal dopamine transporter function is facilitated by converging biology of α-synuclein and cholesterol.
Threlfell, S.; Mohammadi, A. S.; Ryan, B. J.; Connor-Robson, N.; Platt, N. J.; Anand, R.; Serres, F.; Sharp, T.; Bengoa-Vergniory, N.; Wade-Martins, R.; et al.
Front Cell Neurosci 2021: 15, 658244.
http://dx.doi.org/10.3389/fncel.2021.658244

COSMAS: A lightweight toolbox for cardiac optical mapping analysis.
Tomek, J.; Wang, Z. J.; Burton, R. B.; Herring, N.; Bub, G.
Sci Rep 2021: 11, 1, 9147.
http://dx.doi.org/10.1038/s41598-021-87402-9

Heterosynaptic cross-talk of pre- and postsynaptic strengths along segments of dendrites.
Tong, R.; Chater, T. E.; Emptage, N. J.; Goda, Y.
Cell Rep 2021: 34, 4, 108693.
http://dx.doi.org/10.1016/j.celrep.2021.108693

Sensorless adaptive optics for multimode optical fibre endo-microscopy.
Turcotte, R.; Schmidt, C. C.; Emptage, N. J.; Booth, M. J.
In European conferences on biomedical optics 2021 (ECBO). (OSA Technical Digest), 2021 p. EW1B4.
https://opg.optica.org/abstract.cfm?uri=ECBO-2021-EW1B.4

Non-neuronal cells in amyotrophic lateral sclerosis - from pathogenesis to biomarkers.
Vahsen, B. F.; Gray, E.; Thompson, A. G.; Ansorge, O.; Anthony, D. C.; Cowley, S. A.; Talbot, K.; Turner, M. R.
Nat Rev Neurol 2021: 17, 6, 333-348.
http://dx.doi.org/10.1038/s41582-021-00487-8

Sleep down state-active ID2/NKX2.1 interneurons in the neocortex.
Valero, M.; Viney, T. J.; Machold, R.; Mederos, S.; Zutshi, I.; Schuman, B.; Senzai, Y.; Rudy, B.; Buzsáki, G.
Nat Neurosci 2021: 24, 3, 401-411.
http://dx.doi.org/10.1038/s41593-021-00797-6

Substituted aryl benzylamines as potent and selective inhibitors of 17β-hydroxysteroid dehydrogenase type 3.
Vicker, N.; Bailey, H. V.; Day, J. M.; Mahon, M. F.; Smith, A.; Tutill, H. J.; Purohit, A.; Potter, B. V. L.
Molecules 2021: 26, 23.
http://dx.doi.org/10.3390/molecules26237166

Plasma sulfur amino acids and risk of cerebrovascular diseases: A nested case-control study in the EPIC-Norfolk cohort.
Vinknes, K. J.; Refsum, H.; Turner, C.; Khaw, K. T.; Wareham, N. J.; Forouhi, N. G.; Imamura, F.
Stroke 2021: 52, 1, 172-180.
http://dx.doi.org/10.1161/strokeaha.120.029177

Discovery and mechanism of action studies of 4,6-diphenylpyrimidine-2-carbohydrazides as utrophin modulators for the treatment of duchenne muscular dystrophy.
Vuorinen, A.; Wilkinson, I. V. L.; Chatzopoulou, M.; Edwards, B.; Squire, S. E.; Fairclough, R. J.; Bazan, N. A.; Milner, J. A.; Conole, D.; Donald, J. R.; et al.
Eur J Med Chem 2021: 220, 113431.
http://dx.doi.org/10.1016/j.ejmech.2021.113431

Glycosphingolipid metabolism and its role in ageing and Parkinson's disease.
Wallom, K. L.; Fernández-Suárez, M. E.; Priestman, D. A.; Te Vruchte, D.; Huebecker, M.; Hallett, P. J.; Isacson, O.; Platt, F. M.
Glycoconj J 2022: 39, 1, 39-53.
http://dx.doi.org/10.1007/s10719-021-10023-x

Electrophysiological and proarrhythmic effects of hydroxychloroquine challenge in guinea-pig hearts.
Wang, G.; Lu, C. J.; Trafford, A. W.; Tian, X.; Flores, H. M.; Maj, P.; Zhang, K.; Niu, Y.; Wang, L.; Du, Y.; et al.
ACS Pharmacol Transl Sci 2021: 4, 5, 1639-1653.
http://dx.doi.org/10.1021/acsptsci.1c00166

Generation of induced pluripotent stem cells (IPSCS) from a Chinese infant (xachi015-a) with type 2 long QT syndrome carrying the heterozygous mutation c.1814c>t(p.P605l) in KCNH2.
Wang, T.; Zhou, Y.; Zhou, R.; Huang, W.; Wang, J.; Li, H.; Lei, M.; Tan, X.; Zhang, Y.
Stem Cell Res 2021: 56, 102509.
http://dx.doi.org/10.1016/j.scr.2021.102509

Small molecule CD38 inhibitors: Synthesis of 8-amino-n1-inosine 5'-monophosphate, analogues and early structure-activity relationship.
Watt, J. M.; Graeff, R.; Potter, B. V. L.
Molecules 2021: 26, 23.
http://dx.doi.org/10.3390/molecules26237165

Allosteric site on SHIP2 identified through fluorescent ligand screening and crystallography: A potential new target for intervention.
Whitfield, H.; Hemmings, A. M.; Mills, S. J.; Baker, K.; White, G.; Rushworth, S.; Riley, A. M.; Potter, B. V. L.; Brearley, C. A.
J Med Chem 2021: 64, 7, 3813-3826.
http://dx.doi.org/10.1021/acs.jmedchem.0c01944

Cardiac TDP risk stratification modelling of anti-infective compounds including chloroquine and hydroxychloroquine.
Whittaker, D. G.; Capel, R. A.; Hendrix, M.; Chan, X. H. S.; Herring, N.; White, N. J.; Mirams, G. R.; Burton, R. B.
R Soc Open Sci 2021: 8, 4, 210235.
http://dx.doi.org/10.1098/rsos.210235

The v2475f CVPT1 mutation yields distinct ryr2 channel populations that differ in their responses to cytosolic Ca(2+) and Mg(2).
Wilson, A. D.; Hu, J.; Sigalas, C.; Venturi, E.; Valdivia, H. H.; Valdivia, C. R.; Lei, M.; Musgaard, M.; Sitsapesan, R.
J Physiol 2021: 599, 23, 5179-5201.
http://dx.doi.org/10.1113/jp281707

Anti-N-homocysteine-protein autoantibodies are associated with impaired cognition.
Włoczkowska, O.; Perła-Kaján, J.; Smith, A. D.; de Jager, C.; Refsum, H.; Jakubowski, H.
Alzheimers Dement (N Y) 2021: 7, 1, e12159.
http://dx.doi.org/10.1002/trc2.12159

Correction: Molecular basis for a new bovine model of Niemann-Pick type C disease.
Woolley, S. A.; Tsimnadis, E. R.; Lenghaus, C.; Healy, P. J.; Walker, K.; Morton, A.; Khatkar, M. S.; Elliott, A.; Kaya, E.; Hoerner, C.; et al.
PLoS One 2021: 16, 8, e0257078.
http://dx.doi.org/10.1371/journal.pone.0257078

Effectiveness of B vitamins and their interactions with aspirin in improving cognitive functioning in older people with mild cognitive impairment: Pooled post-hoc analyses of two randomized trials.
Wu, Y.; Smith, A. D.; Refsum, H.; Kwok, T.
J Nutr Health Aging 2021: 25, 10, 1154-1160.
http://dx.doi.org/10.1007/s12603-021-1708-1

Acute IL-1RA treatment suppresses the peripheral and central inflammatory response to spinal cord injury.
Yates, A. G.; Jogia, T.; Gillespie, E. R.; Couch, Y.; Ruitenberg, M. J.; Anthony, D. C.
J Neuroinflammation 2021: 18, 1, 15.
http://dx.doi.org/10.1186/s12974-020-02050-6

Objective biomarkers for clinical relapse in multiple sclerosis: A metabolomics approach.
Yeo, T.; Probert, F.; Sealey, M.; Saldana, L.; Geraldes, R.; Höeckner, S.; Schiffer, E.; Claridge, T. D. W.; Leppert, D.; DeLuca, G.; et al.
Brain Commun 2021: 3, 4, fcab240.
http://dx.doi.org/10.1093/braincomms/fcab240

An early stage researcher's primer on systems medicine terminology.
Zanin, M.; Aitya, N. A. A.; Basilio, J.; Baumbach, J.; Benis, A.; Behera, C. K.; Bucholc, M.; Castiglione, F.; Chouvarda, I.; Comte, B.; et al.
Netw Syst Med 2021: 4, 1, 2-50.
http://dx.doi.org/10.1089/nsm.2020.0003

A prognostic dynamic model applicable to infectious diseases providing easily visualized guides: A case study of Covid-19 in the UK.
Zhang, Y.; Gong, C.; Li, D.; Wang, Z. W.; Pu, S. D.; Robertson, A. W.; Yu, H.; Parrington, J.
Sci Rep 2021: 11, 1, 8412.
http://dx.doi.org/10.1038/s41598-021-87882-9

Establishment of IPSC line from a Chinese infant (xachi012-a) with Jervell and Lange-Nielsen syndrome carrying combined kcnq1 frameshift c.431delc(p.I145sfs*92) and nonsense c.1175g > a (p.W392x) variants and two IPSC lines from the parents (xachi013-a, xachi014-a).
Zhou, Y.; Wang, J.; Li, H.; Li, A.; Wang, G.; Tan, X.; Lei, M.; Zhang, Y.
Stem Cell Res 2021: 53, 102391.
http://dx.doi.org/10.1016/j.scr.2021.102391

A comparative study of systolic and diastolic mechanical synchrony in canine, primate, and healthy and failing human hearts.
Zhu, T.; Lei, M.; Wang, Z.; Zhang, R.; Zhang, Y.; Jin, W.; Yu, C.; Huang, C. L.; Liu, D.; Zheng, W.; et al.
Front Cardiovasc Med 2021: 8, 750067.
http://dx.doi.org/10.3389/fcvm.2021.750067

Department of Pharmacology, University of Oxford

Publications 2022

Polymodal control of TMEM16X channels and scramblases.
Agostinelli, E.; Tammaro, P.
Int J Mol Sci 2022: 23, 3.
http://dx.doi.org/10.3390/ijms23031580

Rapid neutrophil mobilisation by VCAM-1+ endothelial extracellular vesicles.
Akbar, N.; Braithwaite, A. T.; Corr, E. M.; Koelwyn, G. J.; van Solingen, C.; Cochain, C.; Saliba, A. E.; Corbin, A.; Pezzolla, D.; Møller Jørgensen, M.; et al.
Cardiovasc Res 2022.
http://dx.doi.org/10.1093/cvr/cvac012

The pharmacology of the TMEM16A channel: Therapeutic opportunities.
Al-Hosni, R.; Ilkan, Z.; Agostinelli, E.; Tammaro, P.
Trends Pharmacol Sci 2022: 43, 9, 712-725.
http://dx.doi.org/10.1016/j.tips.2022.06.006

Evaluating hedgehog acyltransferase activity and inhibition using the acylation-coupled lipophilic induction of polarization (Acyl-cLIP) assay.
Andrei, S. A.; Tate, E. W.; Lanyon-Hogg, T.
Methods Mol Biol 2022: 2374, 13-26.
http://dx.doi.org/10.1007/978-1-0716-1701-4_2

Evaluating the efficacy and safety of a novel prophylactic nasal spray in the prevention of SARS-COV-2 infection: A multi-centre, double blind, placebo-controlled, randomised trial.
Balmforth, D.; Swales, J. A.; Silpa, L.; Dunton, A.; Davies, K. E.; Davies, S. G.; Kamath, A.; Gupta, J.; Gupta, S.; Masood, M. A.; et al.
J Clin Virol 2022: 155, 105248.
http://dx.doi.org/10.1016/j.jcv.2022.105248

Current methods to analyze lysosome morphology, positioning, motility and function.
Barral, D. C.; Staiano, L.; Guimas Almeida, C.; Cutler, D. F.; Eden, E. R.; Futter, C. E.; Galione, A.; Marques, A. R. A.; Medina, D. L.; Napolitano, G.; et al.
Traffic 2022: 23, 5, 238-269.
http://dx.doi.org/10.1111/tra.12839

Correlation of age of onset and clinical severity in Niemann-Pick disease type C1 with lysosomal abnormalities and gene expression.
Baxter, L. L.; Watkins-Chow, D. E.; Johnson, N. L.; Farhat, N. Y.; Platt, F. M.; Dale, R. K.; Porter, F. D.; Pavan, W. J.; Rodriguez-Gil, J. L.
Sci Rep 2022: 12, 1, 2162.
http://dx.doi.org/10.1038/s41598-022-06112-y

Lysosomal proteases and their role in signaling pathways
Bose, S. J.; Ayagama, T.; Burton, R. A. B. (2022):**.**
In Proteolytic signaling in health and disease, Zelanis, A., ed. (Cambridge, Mass., Academic Press), pp 41-61.
http://dx.doi.org/10.1016/B978-0-323-85696-6.00007-X

Inhibition of adenylyl cyclase 1 by ST034307 inhibits IP(3)-evoked changes in sino-atrial node beat rate.
Bose, S. J.; Read, M. J.; Akerman, E.; Capel, R. A.; Ayagama, T.; Russell, A.; Terrar, D. A.; Zaccolo, M.; Burton, R. A. B.
Front Pharmacol 2022: 13, 951897.
http://dx.doi.org/10.3389/fphar.2022.951897

Pathogen-sugar interactions revealed by universal saturation transfer analysis.
Buchanan, C. J.; Gaunt, B.; Harrison, P. J.; Yang, Y.; Liu, J.; Khan, A.; Giltrap, A. M.; Le Bas, A.; Ward, P. N.; Gupta, K.;et al.
Science 2022: 377, 6604, eabm3125.
http://dx.doi.org/10.1126/science.abm3125

Why won't it stop? The dynamics of benzodiazepine resistance in status epilepticus.
Burman, R. J.; Rosch, R. E.; Wilmshurst, J. M.; Sen, A.; Ramantani, G.; Akerman, C. J.; Raimondo, J. V.
Nat Rev Neurol 2022: 18, 7, 428-441.
http://dx.doi.org/10.1038/s41582-022-00664-3

Cardiovascular concentration-effect relationships of amodiaquine and its metabolite desethylamodiaquine: Clinical and preclinical studies.
Chan, X. H. S.; Chotsiri, P.; Capel, R. A.; Pike, J.; Hanboonkunupakarn, B.; Lee, S. J.; Hanafiah, M.; Win, Y. N.; Cremer, M. A.; Kiechel, J. R.; et al.
Br J Clin Pharmacol 2022.
http://dx.doi.org/10.1111/bcp.15569

Structure-activity relationships of 2-pyrimidinecarbohydrazides as utrophin modulators for the potential treatment of duchenne muscular dystrophy.
Chatzopoulou, M.; Conole, D.; Emer, E.; Rowley, J. A.; Willis, N. J.; Squire, S. E.; Gill, B.; Brough, S.; Wilson, F. X.; Wynne, G. M.; et al.
Bioorg Med Chem 2022: 69, 116812.
http://dx.doi.org/10.1016/j.bmc.2022.116812

Pilot study to quantify palladium impurities in lead-like compounds following commonly used purification techniques.
Chatzopoulou, M.; Madden, K. S.; Bromhead, L. J.; Greaves, C.; Cogswell, T. J.; Da Silva Pinto, S.; Galan, S. R. G.; Georgiou, I.; Kennedy, M. S.; Kennett, A.; et al.
ACS Med Chem Lett 2022: 13, 2, 262-270.
http://dx.doi.org/10.1021/acsmedchemlett.1c00638

AICAR prevents doxorubicin-induced heart failure in rats by ameliorating cardiac atrophy and improving fatty acid oxidation.
Choksey, A.; Thackray, B.; Ball, V.; Hong Tuan Hua, L.; Sharma, E.; Kennedy, B. W. C.; Carter, R. D.; Broxholme, J.; Murphy, M. P.; Heather, L. C.; et al.
BioRxiv 2022.
http://dx.doi.org/10.1101/2022.08.17.504253

Probing site-selective conjugation chemistries for the construction of homogeneous synthetic glycodendriproteins.
Cobo, I.; Matheu, M. I.; Castillón, S.; Davis, B. G.; Boutureira, O.
Chembiochem 2022: 23, 10, e202200020.
http://dx.doi.org/10.1002/cbic.202200020

Effect of selective serotonin reuptake inhibitor discontinuation on anxiety-like behaviours in mice.
Collins, H. M.; Pinacho, R.; Ozdemir, D.; Bannerman, D. M.; Sharp, T.
J Psychopharmacol 2022: 36, 7, 794-805.
http://dx.doi.org/10.1177/02698811221093032

Increasing diversity in admissions to postgraduate study.
Conway, S. J.; Kawamura, A.; Marr, T. M.; Platt, F.; Russell, A. J.
J Med Chem 2022: 65, 8, 5867-5869.
http://dx.doi.org/10.1021/acs.jmedchem.2c00533

Radiographic cortical thickness index predicts fragility fracture in gaucher disease.
D'Amore, S.; Sano, H.; Chappell, D. D. G.; Chiarugi, D.; Baker, O.; Page, K.; Ramaswami, U.; Johannesdottir, F.; Cox, T. M.; Deegan, P.; et al.
Radiology 2022, 212779.
http://dx.doi.org/10.1148/radiol.212779

Acidic Ca(2+) stores and immune-cell function.
Davis, L. C.; Morgan, A. J.; Galione, A.
Cell Calcium 2022: 101, 102516.
http://dx.doi.org/10.1016/j.ceca.2021.102516

Association of life course adiposity with risk of incident dementia: A prospective cohort study of 322,336 participants.
Deng, Y. T.; Li, Y. Z.; Huang, S. Y.; Ou, Y. N.; Zhang, W.; Chen, S. D.; Zhang, Y. R.; Yang, L.; Dong, Q.; Feng, J. F.; et al.
Mol Psychiatry 2022: 27, 8, 3385-3395.
http://dx.doi.org/10.1038/s41380-022-01604-9

2-difluoromethoxy-substituted estratriene sulfamates: Synthesis, antiproliferative sar, antitubulin activity, and steroid sulfatase inhibition.
Dohle, W.; Asiki, H.; Gruchot, W.; Foster, P. A.; Sahota, H. K.; Bai, R.; Christensen, K. E.; Hamel, E.; Potter, B. V. L.
ChemMedChem 2022: 17, 23, e202200408.
http://dx.doi.org/10.1002/cmdc.202200408

Synthesis and in vitro antimicrobial SAR of benzyl and phenyl guanidine and aminoguanidine hydrazone derivatives.
Dohle, W.; Su, X.; Nigam, Y.; Dudley, E.; Potter, B. V. L.
Molecules 2022: 28, 1.
http://dx.doi.org/10.3390/molecules28010005

Human coronary microvascular contractile dysfunction associates with viable synthetic smooth muscle cells.
Dora, K. A.; Borysova, L.; Ye, X.; Powell, C.; Beleznai, T. Z.; Stanley, C. P.; Bruno, V. D.; Starborg, T.; Johnson, E.; Pielach, A.; et al.
Cardiovasc Res 2022: 118, 8, 1978-1992.
http://dx.doi.org/10.1093/cvr/cvab218

Signaling and structures underpinning conducted vasodilation in human and porcine intramyocardial coronary arteries.
Dora, K. A.; Lin, J.; Borysova, L.; Beleznai, T.; Taggart, M.; Ascione, R.; Garland, C.
Front Cardiovasc Med 2022: 9, 980628.
http://dx.doi.org/10.3389/fcvm.2022.980628

The association of fasting plasma thiol fractions with body fat compartments, biomarker profile, and adipose tissue gene expression.
Elshorbagy, A.; Bastani, N. E.; Lee-Ødegård, S.; Øvrebø, B.; Haj-Yasein, N.; Svendsen, K.; Turner, C.; Refsum, H.; Vinknes, K. J.; Olsen, T.
Amino Acids 2022.
http://dx.doi.org/10.1007/s00726-022-03229-2

The association of serum sulfur amino acids and related metabolites with incident diabetes: A prospective cohort study.
Elshorbagy, A. K.; Turner, C.; Bastani, N.; Refsum, H.; Kwok, T.
Eur J Nutr 2022: 61, 6, 3161-3173.
http://dx.doi.org/10.1007/s00394-022-02872-5

Iron-induced cytotoxicity mediated by endolysosomal TRPML1 channels is reverted by TFEB.
Fernández, B.; Olmedo, P.; Gil, F.; Fdez, E.; Naaldijk, Y.; Rivero-Ríos, P.; Bracher, F.; Grimm, C.; Churchill, G. C.; Hilfiker, S.
Cell Death Dis 2022: 13, 12, 1047.
http://dx.doi.org/10.1038/s41419-022-05504-2

Early loss of locus coeruleus innervation promotes cognitive and neuropathological changes before amyloid plaque deposition in a transgenic rat model of Alzheimer's disease.
Flores-Aguilar, L.; Hall, H.; Orciani, C.; Foret, M. K.; Kovecses, O.; Ducatenzeiler, A.; Cuello, A. C.
Neuropathol Appl Neurobiol 2022: 48, 6, e12835.
http://dx.doi.org/10.1111/nan.12835

Naadp-mediated Ca(2+) signalling.
Galione, A.; Davis, L. C.; Martucci, L. L.; Morgan, A. J.
Handb Exp Pharmacol 2022.
http://dx.doi.org/10.1007/164_2022_607

Reimagining cholinergic therapy for Alzheimer's disease.
Giacobini, E.; Cuello, A. C.; Fisher, A.
Brain 2022: 145, 7, 2250-2275.
http://dx.doi.org/10.1093/brain/awac096

Heat shock protein amplification improves cerebellar myelination in the NPC1(NIH) mouse model.
Gray, J.; Fernández-Suárez, M. E.; Falah, M.; Smith, D.; Smith, C.; Kaya, E.; Palmer, A. M.; Fog, C. K.; Kirkegaard, T.; Platt, F. M.
EBioMedicine 2022: 86, 104374.
http://dx.doi.org/10.1016/j.ebiom.2022.104374

Cell fate following irradiation of MDA-MB-231 and MCF-7 breast cancer cells pre-exposed to the tetrahydroisoquinoline sulfamate microtubule disruptor stx3451.
Hargrave, S. D.; Joubert, A. M.; Potter, B. V. L.; Dohle, W.; Marais, S.; Mercier, A. E.
Molecules 2022: 27, 12.
http://dx.doi.org/10.3390/molecules27123819

Assessing the effect of anesthetic gas mixtures on hyperpolarized (13)C pyruvate metabolism in the rat brain.
Healicon, R.; Rooney, C. H. E.; Ball, V.; Shinozaki, A.; Miller, J. J.; Smart, S.; Radford-Smith, D.; Anthony, D.; Tyler, D. J.; Grist, J. T.
Magn Reson Med 2022: 88, 3, 1324-1332.
http://dx.doi.org/10.1002/mrm.29274

Molecular profile of pure squamous cell carcinoma of the bladder identifies major roles for OSMR and YAP signalling.
Hurst, C. D.; Cheng, G.; Platt, F. M.; Alder, O.; Black, E. V.; Burns, J. E.; Brown, J.; Jain, S.; Roulson, J. A.; Knowles, M. A.
J Pathol Clin Res 2022: 8, 3, 279-293.
http://dx.doi.org/10.1002/cjp2.261

A tubulin binding molecule drives differentiation of acute myeloid leukemia cells.
Jackson, T. R.; Vuorinen, A.; Josa-Culleré, L.; Madden, K. S.; Conole, D.; Cogswell, T. J.; Wilkinson, I. V. L.; Kettyle, L. M.; Zhang, D.; O'Mahony, A.; et al.
iScience 2022: 25, 8, 104787.
http://dx.doi.org/10.1016/j.isci.2022.104787

The regulation of circadian entrainment in mice by the adenosine the A (2A) /A (1) receptor antagonist CT1500.
Jagannath, A.; Pretoro, S. D.; Ebrahimjee, F.; Ftouni, S.; Taylor, L.; Foster, R. G.; Vasudevan, S.
Front Physiol 2022: 13, 1085217.
http://dx.doi.org/10.3389/fphys.2022.1085217

Spatial and temporal distribution of information processing in the human dorsal anterior cingulate cortex.
Keogh, C.; Deli, A.; Zand, A. P. D.; Zorman, M. J.; Boccard-Binet, S. G.; Parrott, M.; Sigalas, C.; Weiss, A. R.; Stein, J. F.; FitzGerald, J. J.; et al.
Front Hum Neurosci 2022: 16, 780047.
http://dx.doi.org/10.3389/fnhum.2022.780047

The Ca2+-gated channel TMEM16A amplifies capillary pericyte contraction and reduces cerebral blood flow after ischemia.
Korte, N.; Ilkan, Z.; Pearson, C. L.; Pfeiffer, T.; Singhal, P.; Rock, J. R.; Sethi, H.; Gill, D.; Attwell, D.; Tammaro, P.
J Clin Invest 2022: 132, 9.
http://dx.doi.org/10.1172/jci154118

Metabolomic biomarkers in blood samples identify cancers in a mixed population of patients with nonspecific symptoms.
Larkin, J. R.; Anthony, S.; Johanssen, V. A.; Yeo, T.; Sealey, M.; Yates, A. G.; Smith, C. F.; Claridge, T. D. W.; Nicholson, B. D.; Moreland, J. A.; et al.
Clin Cancer Res 2022: 28, 8, 1651-1661.
http://dx.doi.org/10.1158/1078-0432.Ccr-21-2855

The serum metabolomic profile of a distinct, inflammatory subtype of acute psychosis.
Lennox, B.; Xiong, W.; Waters, P.; Coles, A.; Jones, P. B.; Yeo, T.; May, J. T. M.; Yeeles, K.; Anthony, D.; Probert, F.
Mol Psychiatry 2022: 27, 11, 4722-4730.
http://dx.doi.org/10.1038/s41380-022-01784-4

Statin activation of skeletal ryanodine receptors (RYR1) is a class effect but separable from HMG-CoA reductase inhibition.
Lindsay, C.; Musgaard, M.; Russell, A. J.; Sitsapesan, R.
Br J Pharmacol 2022: 179, 21, 4941-4957.
http://dx.doi.org/10.1111/bph.15893

Differential effects of group iii metabotropic glutamate receptors on spontaneous inhibitory synaptic currents in spine-innervating double bouquet and parvalbumin-expressing dendrite-targeting GABAergic interneurons in human neocortex.
Lukacs, I. P.; Francavilla, R.; Field, M.; Hunter, E.; Howarth, M.; Horie, S.; Plaha, P.; Stacey, R.; Livermore, L.; Ansorge, O.; et al.
Cereb Cortex 2022.
http://dx.doi.org/10.1093/cercor/bhac195

Ageing increases cardiac electrical remodelling in rats and mice via NOX4/ROS/CaM,kII-mediated calcium signalling.
Luo, X.; Yu, W.; Liu, Z.; Pu, Z.; Liu, T.; Li, Y.; Liu, W.; Lei, M.; Tan, X.; Chen, T.
Oxid Med Cell Longev 2022: 2022, 8538296.
http://dx.doi.org/10.1155/2022/8538296

Omega-3 supplementation for the prevention of cognitive decline in older adults: Does it depend on homocysteine levels?
Maltais, M.; de Souto Barreto, P.; Bowman, G. L.; Smith, A. D.; Cantet, C.; Andrieu, S.; Rolland, Y.
J Nutr Health Aging 2022: 26, 6, 615-620.
http://dx.doi.org/10.1007/s12603-022-1809-5

Dysregulation of tweak and fn14 in skeletal muscle of spinal muscular atrophy mice.
Meijboom, K. E.; Sutton, E. R.; McCallion, E.; McFall, E.; Anthony, D.; Edwards, B.; Kubinski, S.; Tapken, I.; Bünermann, I.; Hazell, G.; et al.
Skelet Muscle 2022: 12, 1, 18.
http://dx.doi.org/10.1186/s13395-022-00301-z

Reductive site-selective atypical C,Z-type/N2-C2 cleavage allows C-terminal protein amidation.
Mollner, T. A.; Giltrap, A. M.; Zeng, Y.; Demyaenko, Y.; Buchanan, C.; Oehlrich, D.; Baldwin, A. J.; Anthony, D. C.; Mohammed, S.; Davis, B. G.
Sci Adv 2022: 8, 14, eabl8675.
http://dx.doi.org/10.1126/sciadv.abl8675

Two-pore channels: Going with the flows.
Morgan, A. J.; Martucci, L. L.; Davis, L. C.; Galione, A.
Biochem Soc Trans 2022: 50, 4, 1143-1155.
http://dx.doi.org/10.1042/bst20220229

Selective blood-brain barrier permeabilization of brain metastases by a type 1 receptor-selective tumor necrosis factor mutein.
Munoz Pinto, M. F.; Campbell, S. J.; Simoglou Karali, C.; Johanssen, V. A.; Bristow, C.; Cheng, V. W. T.; Zarghami, N.; Larkin, J. R.; Pannell, M.; Hearn, A.; et al.
Neuro Oncol 2022: 24, 1, 52-63. http://dx.doi.org/10.1093/neuonc/noab177

Effect of aphidicolin, a reversible inhibitor of eukaryotic nuclear DNA replication, on the production of genetically modified porcine embryos by CRISPR/Cas9.
Navarro-Serna, S.; Piñeiro-Silva, C.; Luongo, C.; Parrington, J.; Romar, R.; Gadea, J.
Int J Mol Sci 2022: 23, 4.
http://dx.doi.org/10.3390/ijms23042135

Cysteine restriction-specific effects of sulfur amino acid restriction on lipid metabolism.
Nichenametla, S. N.; Mattocks, D. A. L.; Cooke, D.; Midya, V.; Malloy, V. L.; Mansilla, W.; Øvrebø, B.; Turner, C.; Bastani, N. E.; Sokolová, J.; et al.
Aging Cell 2022: 21, 12, e13739.
http://dx.doi.org/10.1111/acel.13739

The importance of vitamin B12 for individuals choosing plant-based diets.
Niklewicz, A.; Smith, A. D.; Smith, A.; Holzer, A.; Klein, A.; McCaddon, A.; Molloy, A. M.; Wolffenbuttel, B. H. R.; Nexo, E.; McNulty, H.; et al.
Eur J Nutr 2022. http://dx.doi.org/10.1007/s00394-022-03025-4

Long-term nucleus basalis cholinergic depletion induces attentional deficits and impacts cortical neurons and BDNF levels without affecting the NGF synthesis.
Orciani, C.; Hall, H.; Pentz, R.; Foret, M. K.; Do Carmo, S.; Cuello, A. C.
J Neurochem 2022: 163, 2, 149-167.
http://dx.doi.org/10.1111/jnc.15683

High resolution optical mapping of cardiac electrophysiology in pre-clinical models.
O'Shea, C.; Winter, J.; Kabir, S. N.; O'Reilly, M.; Wells, S. P.; Baines, O.; Sommerfeld, L. C.; Correia, J.; Lei, M.; Kirchhof, P.; et al.
Sci Data 2022: 9, 1, 135.
http://dx.doi.org/10.1038/s41597-022-01253-1

Glucosamine amends cns pathology in mucopolysaccharidosis IIIc mouse expressing misfolded hgsnat.
Pan, X.; Taherzadeh, M.; Bose, P.; Heon-Roberts, R.; Nguyen, A. L. A.; Xu, T.; Pará, C.; Yamanaka, Y.; Priestman, D. A.; Platt, F. M.; et al.
J Exp Med 2022: 219, 8.
http://dx.doi.org/10.1084/jem.20211860

Dementia risk reduction: Why haven't the pharmacological risk reduction trials worked? An in-depth exploration of seven established risk factors.
Peters, R.; Breitner, J.; James, S.; Jicha, G. A.; Meyer, P. F.; Richards, M.; Smith, A. D.; Yassine, H. N.; Abner, E.; Hainsworth, A. H.; et al.
Alzheimers Dement (N Y) 2022: 7, 1, e12202.

The epidemiology is promising, but the trial evidence is weak. Why pharmacological dementia risk reduction trials haven't lived up to expectations, and where do we go from here?
Peters, R.; Dodge, H. H.; James, S.; Jicha, G. A.; Meyer, P. F.; Richards, M.; Smith, A. D.; Yassine, H. N.; Abner, E.; Hainsworth, A. H.; et al.
Alzheimers Dement 2022: 18, 507-512.
http://dx.doi.org/10.1002/alz.12393

In FUS[1-359]-TG mice o,s-dibenzoyl thiamine reduces muscle atrophy, decreases glycogen synthase kinase 3 beta, and normalizes the metabolome.
Probert, F.; Gorlova, A.; Deikin, A.; Bettendorff, L.; Veniaminova, E.; Nedorubov, A.; Chaprov, K. D.; Ivanova, T. A.; Anthony, D. C.; Strekalova, T.
Biomed Pharmacother 2022: 156, 113986.
http://dx.doi.org/10.1016/j.biopha.2022.113986

Determination of CSF GFAP, CCN5, and VWF levels enhances the diagnostic accuracy of clinically defined MS from non-MS patients with CSF oligoclonal bands.
Probert, F.; Yeo, T.; Zhou, Y.; Sealey, M.; Arora, S.; Palace, J.; Claridge, T. D. W.; Hillenbrand, R.; Oechtering, J.; Kuhle, J.; et al.
Front Immunol 2021: 12, 811351. http://dx.doi.org/10.3389/fimmu.2021.811351

Randomised controlled trial of intravenous nafamostat mesylate in covid pneumonitis: Phase 1b/2a experimental study to investigate safety, pharmacokinetics and pharmacodynamics.
Quinn, T. M.; Gaughan, E. E.; Bruce, A.; Antonelli, J.; O'Connor, R.; Li, F.; McNamara, S.; Koch, O.; MacKintosh, C.; Dockrell, D.; et al.
EBioMedicine 2022: 76, 103856.
http://dx.doi.org/10.1016/j.ebiom.2022.103856

Depressive symptoms in non-alcoholic fatty liver disease are identified by perturbed lipid and lipoprotein metabolism.
Radford-Smith, D. E.; Patel, P. J.; Irvine, K. M.; Russell, A.; Siskind, D.; Anthony, D. C.; Powell, E. E.; Probert, F.
PLoS One 2022: 17, 1, e0261555.
http://dx.doi.org/10.1371/journal.pone.0261555

Modifying the maternal microbiota alters the gut-brain metabolome and prevents emotional dysfunction in the adult offspring of obese dams.
Radford-Smith, D. E.; Probert, F.; Burnet, P. W. J.; Anthony, D. C.
Proc Natl Acad Sci U S A 2022: 119, 9.
http://dx.doi.org/10.1073/pnas.2108581119

A novel serum metabolomic panel distinguishes IGG4-related sclerosing cholangitis from primary sclerosing cholangitis.
Radford-Smith, D. E.; Selvaraj, E. A.; Peters, R.; Orrell, M.; Bolon, J.; Anthony, D. C.; Pavlides, M.; Lynch, K.; Geremia, A.; Bailey, A.; et al.
Liver Int 2022: 42, 6, 1344-1354.
http://dx.doi.org/10.1111/liv.15192

High-resolution 3D heart models of cardiomyocyte subpopulations in cleared murine heart.
Ren, H.; Pu, Z.; Sun, T.; Chen, T.; Liu, L.; Liu, Z.; O'Shea, C.; Pavlovic, D.; Tan, X.; Lei, M.
Front Physiol 2022: 13, 779514.
http://dx.doi.org/10.3389/fphys.2022.779514

Repeated imaging through a multimode optical fiber using adaptive optics.
Schmidt, C. C.; Turcotte, R.; Booth, M. J.; Emptage, N. J.
Biomed Opt Express 2022: 13, 2, 662-675.
http://dx.doi.org/10.1364/boe.448277

In vivo electrophysiological study of the targeting of 5-HT(3) receptor-expressing cortical interneurons by the multimodal antidepressant, vortioxetine.
Schweimer, J. V.; Brouard, J. T.; Li, Y.; Sánchez, C.; Sharp, T.
Eur J Neurosci 2022: 55, 6, 1409-1423.
http://dx.doi.org/10.1111/ejn.15623

Recent advances in small molecule stimulation of regeneration and repair.
Silpa, L.; Sim, R.; Russell, A. J.
Bioorg Med Chem Lett 2022: 61, 128601.
http://dx.doi.org/10.1016/j.bmcl.2022.128601

The sedentary lifestyle and masticatory dysfunction: Time to review the contribution to age-associated cognitive decline and astrocyte morphotypes in the dentate gyrus.
Siqueira Mendes, F. C. C.; Almeida, M. N. F.; Falsoni, M.; Andrade, M. L. F.; Felício, A. P. G.; Paixão, L.; Júnior, F.; Anthony, D. C.; Brites, D.; Diniz, C. W. P.; et al.
Int J Mol Sci 2022: 23, 11.
http://dx.doi.org/10.3390/ijms23116342

Mandatory food fortification with folic acid.
Smith, A. D.; Sobczyńska-Malefora, A.; Green, R.; Reynolds, E. H.; Refsum, H.
Lancet Glob Health 2022: 10, 10, e1389.
http://dx.doi.org/10.1016/s2214-109x(22)00378-3

Behavioral and neuropathological changes after toxoplasma gondii ocular conjunctival infection in balb/c mice.
Soares, G.; de Leão, E.; Freitas, S. F.; Alves, R. M. C.; Tavares, N. P.; Costa, M. V. N.; de Menezes, G. C.; de Oliveira, J. H. P.; Guerreiro, L. C. F.; de Assis, A. C. L.; et al.
Front Cell Infect Microbiol 2022: 12, 812152.
http://dx.doi.org/10.3389/fcimb.2022.812152

Vitamin B-12.
Sobczyńska-Malefora, A.; Smith, A. D.
Adv Nutr 2022.
http://dx.doi.org/10.1093/advances/nmac030

Chronic mild stress paradigm as a rat model of depression: Facts, artifacts, and future perspectives.
Strekalova, T.; Liu, Y.; Kiselev, D.; Khairuddin, S.; Chiu, J. L. Y.; Lam, J.; Chan, Y. S.; Pavlov, D.; Proshin, A.; Lesch, K. P.; et al.
Psychopharmacology (Berl) 2022: 239, 3, 663-693.
http://dx.doi.org/10.1007/s00213-021-05982-w

Hippocampal over-expression of cyclooxygenase-2 (COX-2) is associated with susceptibility to stress-induced anhedonia in mice.
Strekalova, T.; Pavlov, D.; Trofimov, A.; Anthony, D. C.; Svistunov, A.; Proshin, A.; Umriukhin, A.; Lyundup, A.; Lesch, K. P.; Cespuglio, R.
Int J Mol Sci 2022: 23, 4.
http://dx.doi.org/10.3390/ijms23042061

The association of circulating amino acids and dietary inflammatory potential with muscle health in Chinese community-dwelling older people.
Su, Y.; Elshorbagy, A.; Turner, C.; Refsum, H.; Kwok, T.
Nutrients 2022: 14, 12.
http://dx.doi.org/10.3390/nu14122471

Predation stress causes excessive aggression in female mice with partial genetic inactivation of tryptophan hydroxylase-2: Evidence for altered myelination-related processes.
Svirin, E.; Veniaminova, E.; Costa-Nunes, J. P.; Gorlova, A.; Umriukhin, A.; Kalueff, A. V.; Proshin, A.; Anthony, D. C.; Nedorubov, A.; Tse, A. C. K.; et al.
Cells 2022: 11, 6.
http://dx.doi.org/10.3390/cells11061036

NKCC1 deficiency in forming hippocampal circuits triggers neurodevelopmental disorder: Role of BDNF-TrkB signalling.
Szymanski, J.; Minichiello, L.
Brain Sci 2022: 12, 4.
http://dx.doi.org/10.3390/brainsci12040502

Endolysosomal calcium release and cardiac physiology.
Terrar, D. A.
Cell Calcium 2022: 104, 102565.
http://dx.doi.org/10.1016/j.ceca.2022.102565

Psilocin acutely alters sleep-wake architecture and cortical brain activity in laboratory mice.
Thomas, C. W.; Blanco-Duque, C.; Bréant, B. J.; Goodwin, G. M.; Sharp, T.; Bannerman, D. M.; Vyazovskiy, V. V.
Transl Psychiatry 2022: 12, 1, 77.
http://dx.doi.org/10.1038/s41398-022-01846-9

Metabolic effects of doxorubicin on the rat liver assessed with hyperpolarized mri and metabolomics.
Timm, K. N.; Ball, V.; Miller, J. J.; Savic, D.; West, J. A.; Griffin, J. L.; Tyler, D. J.
Front Physiol 2021: 12, 782745.
http://dx.doi.org/10.3389/fphys.2021.782745

Associations between plasma sulfur amino acids and specific fat depots in two independent cohorts: CODAM and the Maastricht study.
Tore, E. C.; Elshorbagy, A. K.; Bakers, F. C. H.; Brouwers, M.; Dagnelie, P. C.; Eussen, S.; Jansen, J. F. A.; Kooi, M. E.; Kusters, Y.; Meex, S. J. R.; et al.
Eur J Nutr 2022.
http://dx.doi.org/10.1007/s00394-022-03041-4

Distribution and efficacy of ofatumumab and ocrelizumab in humanized CD20 mice following subcutaneous or intravenous administration.
Torres, J. B.; Roodselaar, J.; Sealey, M.; Ziehn, M.; Bigaud, M.; Kneuer, R.; Leppert, D.; Weckbecker, G.; Cornelissen, B.; Anthony, D. C.
Front Immunol 2022: 13, 814064.
http://dx.doi.org/10.3389/fimmu.2022.814064

Dimethyl fumarate decreases short-term but not long-term inflammation in a focal EAE model of neuroinflammation.
Vainio, S. K.; Dickens, A. M.; Matilainen, M.; López-Picón, F. R.; Aarnio, R.; Eskola, O.; Solin, O.; Anthony, D. C.; Rinne, J. O.; Airas, L.; et al.
EJNMMI Res 2022: 12, 1, 6.
http://dx.doi.org/10.1186/s13550-022-00878-y

Spread of pathological human tau from neurons to oligodendrocytes and loss of high-firing pyramidal neurons in aging mice.
Viney, T. J.; Sarkany, B.; Ozdemir, A. T.; Hartwich, K.; Schweimer, J.; Bannerman, D.; Somogyi, P.
Cell Rep 2022: 41, 7, 111646.
http://dx.doi.org/10.1016/j.celrep.2022.111646

The ryanodine receptor mutational characteristics and its indication for cancer prognosis.
Wang, F.; Yu, J.; Lin, P.; Sigalas, C.; Zhang, S.; Gong, Y.; Sitsapesan, R.; Song, L.
Sci Rep 2022: 12, 1, 16113. http://dx.doi.org/10.1038/s41598-022-19905-y

A structural exposé of noncanonical molecular reactivity within the protein tyrosine phosphatase wpd loop.
Wang, H.; Perera, L.; Jork, N.; Zong, G.; Riley, A. M.; Potter, B. V. L.; Jessen, H. J.; Shears, S. B.
Nat Commun 2022: 13, 1, 2231.
http://dx.doi.org/10.1038/s41467-022-29673-y

Inhibition of the Niemann-Pick C1 protein is a conserved feature of multiple strains of pathogenic mycobacteria.
Weng, Y.; Shepherd, D.; Liu, Y.; Krishnan, N.; Robertson, B. D.; Platt, N.; Larrouy-Maumus, G.; Platt, F. M.
Nat Commun 2022: 13, 1, 5320.
http://dx.doi.org/10.1038/s41467-022-32553-0

Anti-TNF therapy for inflammatory bowel disease in patients with neurodegenerative Niemann-Pick disease type C
Williams, I.; Pandey, S.; Haller, W.; Huynh, H. Q.; Chan, A.; Düeker, G.; Bettels, R.; Peyrin-Biroulet, L.; Dike, C. R.; DeGeeter, C.; et al.
Wellcome Open Res 2022: 7, 11.
http://dx.doi.org/10.12688/wellcomeopenres.16986.1

The dihydrofolate reductase 19-bp deletion modifies the beneficial effect of B-vitamin therapy in mild cognitive impairment: Pooled study of two randomized placebo-controlled trials.
Wu, Y.; Smith, A. D.; Bastani, N. E.; Refsum, H.; Kwok, T.
Hum Mol Genet 2022: 31, 7, 1151-1158.
http://dx.doi.org/10.1093/hmg/ddab246

Ventricular SK2 upregulation following angiotensin ii challenge: Modulation by p21-activated kinase-1.
Yang, B.; Jiang, Q.; He, S.; Li, T.; Ou, X.; Chen, T.; Fan, X.; Jiang, F.; Zeng, X.; Huang, C. L.; et al.
J Mol Cell Cardiol 2022: 164, 110-125.
http://dx.doi.org/10.1016/j.yjmcc.2021.11.001

Depression, depression treatments, and risk of incident dementia: A prospective cohort study of 354,313 participants.
Yang, L.; Deng, Y. T.; Leng, Y.; Ou, Y. N.; Li, Y. Z.; Chen, S. D.; He, X. Y.; Wu, B. S.; Huang, S. Y.; Zhang, Y. R.; et al.
Biol Psychiatry 2022.
http://dx.doi.org/10.1016/j.biopsych.2022.08.026

In sickness and in health: The functional role of extracellular vesicles in physiology and pathology in vivo: Part i: Health and normal physiology.
Yates, A. G.; Pink, R. C.; Erdbrügger, U.; Siljander, P. R.; Dellar, E. R.; Pantazi, P.; Akbar, N.; Cooke, W. R.; Vatish, M.; Dias-Neto, E.; et al.
J Extracell Vesicles 2022: 11, 1, e12151.
http://dx.doi.org/10.1002/jev2.12151

In sickness and in health: The functional role of extracellular vesicles in physiology and pathology in vivo: Part 2: Pathology
Yates, A. G.; Pink, R. C.; Erdbrügger, U.; Siljander, P. R.; Dellar, E. R.; Pantazi, P.; Akbar, N.; Cooke, W. R.; Vatish, M.; Dias-Neto, E.; et al.
J Extracell Vesicles 2022: 11, 1, e12190.
http://dx.doi.org/10.1002/jev2.12190

Nafamostat reduces systemic inflammation in TLR7-mediated virus-like illness.
Yates, A. G.; Weglinski, C. M.; Ying, Y.; Dunstan, I. K.; Strekalova, T.; Anthony, D. C.
J Neuroinflammation 2022: 19, 1, 8.
http://dx.doi.org/10.1186/s12974-021-02357-y

Metabolomics detects clinically silent neuroinflammatory lesions earlier than neurofilament-light chain in a focal multiple sclerosis animal model.
Yeo, T.; Bayuangga, H.; Augusto-Oliveira, M.; Sealey, M.; Claridge, T. D. W.; Tanner, R.; Leppert, D.; Palace, J.; Kuhle, J.; Probert, F.; et al.
J Neuroinflammation 2022: 19, 1, 252.
http://dx.doi.org/10.1186/s12974-022-02614-8

A functional circuit formed by the autonomic nerves and myofibroblasts controls mammalian alveolar formation for gas exchange.
Zhang, K.; Yao, E.; Wang, S. A.; Chuang, E.; Wong, J.; Minichiello, L.; Schroeder, A.; Eckalbar, W.; Wolters, P. J.; Chuang, P. T.
Dev Cell 2022: 57, 13, 1566-1581.e1567.
http://dx.doi.org/10.1016/j.devcel.2022.05.021

Modifiable risk factors for incident dementia and cognitive impairment: An umbrella review of evidence.
Zhang, Y. R.; Xu, W.; Zhang, W.; Wang, H. F.; Ou, Y. N.; Qu, Y.; Shen, X. N.; Chen, S. D.; Wu, K. M.; Zhao, Q. H.; et al.
J Affect Disord 2022: 314, 160-167.
http://dx.doi.org/10.1016/j.jad.2022.07.008