

Recent Publications – Faculty of Science, Technology, Engineering and Mathematics

BY MEMBERS OF THE STAFF AND BY RESEARCH STUDENTS WORKING UNDER THEIR SUPERVISION

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School of Biochemistry and Immunology

BIOCHEMISTRY

Budanov, Andrei, 'Sestrin2 supports lung tumor growth in early stages of cancer development in mice but might play a tumor suppressive role in the late stages of carcinogenesis', *FASEB Journal, Experimental Biology* 2018, San Diego (2018), S Lb150 [A.V. Budanov, B. Ding, A. Parmigiani, P.M. Chumakov, J.H. Lee, A. Chawla, S. Grossman]

'Implication of KRT16, FAM129A and HKDC1 genes as ATF4 regulated components of the integrated stress response', *PLoS ONE*, 13, 2 (2018), e0191107 [A.G. Evstafieva, I.E. Kovaleva, M.S. Shoshinova, A.V. Budanov, P.M Chumakov]

'Some phenotypic characteristics of nematode *Caenorhabditis elegans* strains with defective functions of the sestrin (cSesn) gene', *Biomedical and Pharmacology Journal*, 11, 2 (2018), 759-767 [A.O. Zeltukhin, G.V. Ilyinskaya, A.V. Budanov, P.M. Chumakov]

'Sestrin2 protects against cell death in response to DNA-damaging drugs through regulation of ROS and mitochondrial function', *FEBS open bio*, Prague, Czech Republic (2018), 10-149-T [A. Budano, A. Evstafieva, A. Dalina, I. Kovaleva, A. Zheltukhin, P. Chumakov, J. Taylor]

'Sestrins are gatekeepers in the way from stress to aging and disease', *Molecular Biology*, 52, 6 (2018), 823-835 [A.A. Dalina, I.E. Kovaleva, A.V. Budanov]

'Sestrins regulate respiration and cell death through interaction with mitochondria', *FEBS Open Bio, 44th FEBS congress*, Krakow, Poland (2019), 144-145 [A. Budanov, A. Dalina, I. Kovaleva, A. Haidurovs, A. Tokarchuk, A. Zheltukhin]

'p53-inducible sestrins might play opposite roles in the regulation of early and late stages of lung carcinogenesis', *Oncotarget*, 10, 65 (2019), 6997-7009 [B. Ding, A. Haidurov, A. Chawla (...), S.R. Grossman, A.V. Budanov]

'Sestrin prevents muscle atrophy from disuse and aging by integrating anabolic and catabolic signals', *Nature Communications*, 11, 1 (2020), 189 [J. Segalés, E. Perdiguier, A.L. Serrano (...), A. Budanov *et al.*]

Caffrey, Martin, 'Membrane (and soluble) protein stability and binding measurements in the lipid cubic phase using label-free differential scanning fluorimetry', *Analytical Chemistry*, 90, 20 (2018), 12152-12160 [C. Boland, S. Olaturji, J. Bailey, N. Howe, D. Weichert, S.K. Fetcs, X. Yu, J. Merino-Gracia, C. Delsaut, M. Caffrey]

Cunningham, Colm, 'Astrocytes: heterogeneous and dynamic phenotypes in neurodegeneration and innate immunity', *Neuroscientist* (2018), <http://hdl.handle.net/2262/90796> [C. Cunningham, A. Dunne, A.B. Lopez-Rodriguez]

'Losing sleep over delirium', *Critical Care Medicine*, 46, 6 (2018), 1036-1038 [R.C. Arora, C. Cunningham]

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- 'Correction: Acute transient cognitive dysfunction and acute brain injury induced by systemic inflammation occur by dissociable IL-1-dependent mechanisms' (*Molecular Psychiatry*, (2018), 10.1038/s41380-018-0075-8), *Molecular Psychiatry* (2019), <http://dx.doi.org/10.1038/s41380-019-0403-7> [D.T. Skelly, C.L. Murray, S. Harney, C. O'Boyle, E. Hennessy, M.A. Dansereau, A. Nazmi, L. Tortorelli, J.N. Rawlins, D.M. Bannerman, C. Cunningham]
- 'Reduce the burden of dementia now', *Alzheimer's and Dementia*, 14, 7 (2018), 845-847 [K.M. Hayden, S.K. Inouye, C. Cunningham, R.N. Jones, M.S. Avidan, D. Davis, G.A. Kuchel, Y. Tang, A.S. Khachaturian]
- 'Acute transient cognitive dysfunction and acute brain injury induced by systemic inflammation occur by dissociable IL-1-dependent mechanisms', *Molecular Psychiatry* (2018), 1 [D.T. Skelly, É.W. Griffin, C.L. Murray (...), D.M. Bannerman, C. Cunningham]
- 'Priming microglia for innate immune memory in the brain', *Trends in Immunology*, 40, 4 (2019), 358-374 [J.J. Neher, C. Cunningham]
- 'Chronic neurodegeneration induces type I interferon synthesis via STING, shaping microglial phenotype and accelerating disease progression', *Glia*, 67 (2019), 1254 –1276 [A. Nazmi, R.H. Field, E.W. Griffin (...), A. Dunne C. Cunningham]
- Davey, Gavin**, 'Salivary N-glycosylation as a biomarker of oral cancer: a pilot study', *Glycobiology* (2019), doi.org/10.1093/glycob/cwz046 [N. Sinevici, S. Mittermayer, G.P. Davey, J. Bones, J. O'Sullivan]
- 'Dichloroacetate stabilizes mitochondrial fusion dynamics in models of neurodegeneration', *Frontiers in Molecular Neuroscience* (2019), <http://hdl.handle.net/2262/89562> [D. O'Hara, G.M. Davis, N.A. Adlesic, J.M. Hayes, P. G.P. Davey]
- '6-hydroxydopamine: a far from simple neurotoxin', *J Neural Transm* (2020), <http://dx.doi.org/10.1007/s00702-019-02133-6> [D. Varešlija, K.F. Tipton, G.P. Davey, A.G. McDonald]
- Fayne, Darren**, 'Single point mutations reveal amino acid residues important for *Chromobacterium violaceum* transaminase activity in the production of unnatural amino acids', *Scientific Reports*, 8, 1 (2018), <http://hdl.handle.net/2262/90168> [S.A. Almahboub, T. Narancic, D. Fayne, K.E. O'Connor]
- 'Beta-lactams with antiproliferative and antiapoptotic activity in breast and chemoresistant colon cancer cells', *European Journal of Medicinal Chemistry* (2020), <https://doi.org/10.1016/j.ejmech.2020.112050> [A.M. Malebari, D. Fayne, S.M. Nathwani (...), D.M. Zisterer, M.J. Meegan]
- Finlay, David**, 'Metabolic reprogramming of natural killer cells in obesity limits antitumor responses', *Nature Immunology*, 19, 12 (2018), 1330-1340 [X. Michelet, L. Dyck, A. Hogan (...), D. Finlay, L. Lynch]
- 'Immunometabolism and natural killer cell responses', *Nature Reviews Immunology*, 19, 5 (2019), 282-290 [K. O'Brien, D.K. Finlay]
- 'Competition for nutrients; an emerging role in controlling immune responses', *Nature Communications*, 10, 1 (2019), 2123 [N. Kedia-Mehta, D.K. Finlay]
- 'Obesity reduces mTORC1 activity in mucosal-associated invariant T cells, driving defective metabolic and functional responses', *Journal of Immunology*, 202, 12 (2019), 3404-3411 [A. O'Brien, R.M. Loftus, M.M. Pisarska (...), D.K. Finlay *et al.*]
- 'Akt and STAT5 mediate naïve human CD4+ T cell early metabolic response to TCR stimulation', *Nature Communications*, 10, 1 (2019), 2042 [N. Jones, E.E. Vincent, J.G. Cronin, S. Panetti, M. Chambers, S.R. Holm, S.E. Owens, N.J. Francis, D.K. Finlay, C.A. Thornton]
- 'N-myristoylation of AMPK controls T cell inflammatory function', *Nature Immunology*, 20, 3 (2019), 252-254 [D.K. Finlay]

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- 'Natural killer cells integrate signals received from tumour interactions and IL2 to induce robust and prolonged anti-tumour and metabolic responses', *Immunometabolism*, 2 (2019), e190014 [N. Kedia-Mehta, C. Choi, A. McCrudden, E. Littwitz-Salomon, P.G. Fox, C.M. Gardiner, D.K. Finlay]
- Kelly, Vincent**, 'Malonylation of GAPDH is an inflammatory signal in macrophages', *Nature Communications*, 10, 1 (2019), 338 [S. Galván-Peña, R.G. Carroll, C. Newman (...), L.K. Modis, L.A. O'Neill]
- 'Highly efficient CRISPR-targeting of the murine Hipp11 intergenic region supports inducible human transgene expression', *Molecular Biology Reports* (2019), <http://dx.doi.org/10.1007/s11033-019-05204-9> [J. Browning, M. Rooney, E. Hams, S. Takahashi, S. Mizuno, F. Sugiyama, P.G. Fallon, V.P. Kelly]
- Khan, Amir**, 'Rab32 interacts with SNX6 and affects retromer-dependent golgi trafficking', *PLoS ONE*, 14, 1 (2019), <http://hdl.handle.net/2262/89213> [D. Waschbusch, N. Hubel, E. Ossendorf (...), A.R. Khan, A. Barnekow]
- 'Myxoma virus M013 protein antagonizes NF- κ B and inflammasome pathways via distinct structural motifs', *Journal of Biological Chemistry*, 294, 21 (2019), 8480-8489 [R.R. Garg, C.B. Jackson, M.M. Rahman, A.R. Khan, A.S. Lewin, G. McFadden]
- McCabe, Thomas**, 'Optimisation of estrogen receptor subtype-selectivity of a 4-aryl-4H-chromene scaffold previously identified by virtual screening', *Bioorganic and Medicinal Chemistry*, 28, 5 (2020), 115261 [M. Carr, A.J.S. Knox, D.K. Nevin (...), T. McCabe *et al.*]
- O'Neill, Luke**, 'Circadian clock protein BMAL1 regulates IL-1 β in macrophages via NRF2', *Proceedings of the National Academy of Sciences of the United States of America*, 115, 36 (2018), E8460-E8468 [J.O. Early, D. Menon, C.A. Wyse (...), L.A.J. O'Neill, A.M. Curtis]
- 'Spontaneous atopic dermatitis in mice with a defective skin barrier is independent of ILC2 and mediated by IL-1 β ', *Allergy: European Journal of Allergy and Clinical Immunology* (2019), 1 [C. Schwartz, T. Moran, S.P. Saunders (...), L. O'Neill *et al.*]
- 'Metabolic regulation of NLRP3', *Immunological Reviews*, 281, 1 (2018), 88-98 [M.M. Hughes, L.A.J. O'Neill]
- 'Inflammasome inhibition prevents -synuclein pathology and dopaminergic neurodegeneration in mice', *Science Translational Medicine*, 10, 465 (2018), <http://dx.doi.org/10.1126/scitranslmed.aah4066> [R. Gordon, E.A. Albornoz, D.C. Christie (...), L.A. O'Neill *et al.*]
- 'Modified surface relief layer created by holographic lithography: application to selective sodium and potassium sensing', *Sensors (Switzerland)*, 19, 5 (2019), <http://dx.doi.org/10.3390/s19051026> [S.E. Gul, L. O'Neill, J. Cassidy, I. Naydenova]
- 'In vitro cytotoxicity, cellular uptake, reactive oxygen species and cell cycle arrest studies of novel ruthenium(II) polypyridyl complexes towards A549 lung cancer cell line', *Drug and Chemical Toxicology* (2019), <http://dx.doi.org/10.1080/01480545.2019.1589492> [M. Qasim Warraich, A. Ghion, L. Perdisatt, L. O'Neill, A. Casey, C. O'Connor]
- 'An unexpected link between fatty acid synthase and cholesterol synthesis in proinflammatory macrophage activation', *Journal of Biological Chemistry*, 293, 15 (2018), 5509-5521 [R.G. Carroll, Z. Zaslona, E.L. Koppe, S. Angiari, M. Triantafilou, K. Triantafilou, L.K. Modis, L.A. O'Neill]
- 'Itaconate: the poster child of metabolic reprogramming in macrophage function', *Nature Reviews Immunology*, 19, 5 (2019), 273-281 [L.A.J. O'Neill, M.N. Artyomov]
- 'Nrf2 negatively regulates STING indicating a link between antiviral sensing and metabolic reprogramming', *Nature Communications*, 9, 1 (2018), <http://dx.doi.org/10.1038/s41467-018-05861-7> [D. Olagnier, A.M. Brandtoft, C. Gunderstofte (...), L.A. O'Neill *et al.*]
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- 'The immunomodulatory potential of the metabolite itaconate', *Trends in Immunology*, 40, 8 (2019), 687-698 [A. Hoofman, L.A.J. O'Neill]
- 'Immunometabolism and atherosclerosis: perspectives and clinical significance: a position paper from the working group on atherosclerosis and vascular biology of the European society of cardiology', *Cardiovascular Research*, 115, 9 (2019), 1385-1392 [D.F.J. Ketelhuth, E. Lutgens, C.J. Binder (...), L. O'Neill *et al.*]
- 'Daily variation in macrophage phagocytosis is clock-independent and dispensable for cytokine production', *Immunology*, 157, 2 (2019), 122-136 [S.S. Geiger, A.M. Curtis, L.A.J. O'Neill, R.M. Siegel]
- 'Structure-property relationships for a series of ruthenium(II) polypyridyl complexes elucidated through raman spectroscopy', *Journal of Spectroscopy*, 2018, 3827130 (2018), <http://dx.doi.org/10.1155/2018/3827130> [L. O'Neill, L. Perdisatt, C. O'Connor]
- Porter, Richard**, '2-deoxy-D-glucose inhibits aggressive triple-negative breast cancer cells by targeting glycolysis and the cancer stem cell phenotype', *Scientific Reports*, 9, 1 (2019), 3788-3798 [S. O'Neill, R.K. Porter, N. McNamee, V.G. Martinez, L. O'Driscoll]
- 'Correction: Residual feed intake phenotype and gender affect the expression of key genes of the lipogenesis pathway in subcutaneous adipose tissue of beef cattle [J Anim Sci Biotechnol. (2018), 9 (68)] DOI: 10.1186/s40104-018-0282-9', *Journal of Animal Science and Biotechnology*, 9, 1 (2018), <http://dx.doi.org/10.1186/s40104-018-0300-y> [C. McKenna, R.K. Porter, K.A. Keogh, K.A. S.M. Waters, M. McGee, D.A. Kenny]
- Ryan, Tomas**, 'Engram cell excitability state determines the efficacy of memory retrieval', *Neuron*, 101, 2 (2019), 274-284.e5 [T. Ryan]
- 'United states of amnesia: rescuing memory loss from diverse conditions', *Disease Models and Mechanisms*, 11, 5 (2018), <http://dx.doi.org/10.1242/dmm.035055> [T. Ryan]
- 'The developmental shift of NMDA receptor composition proceeds independently of GluN2 subunit-specific GluN2 C-terminal sequences', *Cell Reports*, 25, 4 (2018), 841-851.e4 [T. Ryan]
- Waschbusch, Dieter**, 'Rab32 interacts with SNX6 and affects retromer-dependent golgi trafficking', *PLoS ONE*, 14, 1 (2019), <http://hdl.handle.net/2262/89213> [D. Waschbusch, N. Hubel, E. Ossendorf (...), A.R. Khan, A. Barnekow]
- 'Parkinson disease-associated mutations in LRRK2 cause centrosomal defects via Rab8a phosphorylation', *Molecular Neurodegeneration*, 13, 1 (2018), 3 [J. Madero-Pérez, E. Fdez. B. Fernández (...), D. Waschbüsch *et al.*]
- 'Structural basis for Rab8a recruitment of RILPL2 via LRRK2 phosphorylation of switch 2', *Structure*, 28, 1-12 (2020), 10.1016/j.str.2020.01.005 [D. Waschbusch, E. Purylyte, P. Pal, E. McGrath, D.R. Alessi, A.R. Khan]
- Zisterer, Daniela**, 'Raising the bar in anticancer therapy: recent advances in, and perspectives on, telomerase inhibitors', *Drug Discovery Today* (2019), <http://hdl.handle.net/2262/89633> [A.P. Saraswati, N. Relitti, M. Brindisi, S. Gemma, D. Zisterer, S. Butini, G. Campiani]
- 'The XIAP inhibitor embelin sensitises malignant rhabdoid tumour cells to TRAIL treatment via enhanced activation of the extrinsic apoptotic pathway', *International Journal of Oncology*, 55, 1 (2019), 191-202 [R. Coyle, K. Slattery, L. Ennis, M.J. O'Sullivan, D.M. Zisterer]
- '3-vinylazetidino-2-ones: synthesis, antiproliferative and tubulin destabilizing activity in MCF-7 and MDA-MB-231 breast cancer cells', *Pharmaceuticals*, 12, 2 (2019), <http://dx.doi.org/10.3390/ph12020056> [S. Wang, A.M. Malebari, T.F. Greene (...), D.M. Zisterer, M.J. Meegan]
- 'Synthesis and evaluation of antiproliferative microtubule-destabilising combretastatin A-4 piperazine conjugates', *Organic and Biomolecular Chemistry*, 17, 25 (2019), 6184-6200 [N.M. O'Boyle, G. Ana, P.M. Kelly (...), D.M. Zisterer, M.J. Meegan]

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'Beta-lactams with antiproliferative and antiapoptotic activity in breast and chemoresistant colon cancer cells', *European Journal of Medicinal Chemistry* (2020), <https://doi.org/10.1016/j.ejmech.2020.112050> [A.M. Malebari, D. Fayne, S.M. Nathwani (...), D.M. Zisterer, M.J. Meegan]

'Optimisation of estrogen receptor subtype-selectivity of a 4-aryl-4H-chromene scaffold previously identified by virtual screening', *Bioorganic and Medicinal Chemistry*, 28, 5 (2020), 115261 [M. Carr, A.J.S. Knox, D.K. Nevin (...), D.M. Zisterer *et al.*]

IMMUNOLOGY

Bowie, Andrew, 'Cell survival and cytokine release after inflammasome activation is regulated by the toll-IL-1R protein SARM', *Immunity*, 50, 6 (2019), 1412-1424.e6 [M. Carty, J. Kearney, K.A. Shanahan (...), P.G. Fallon, A.G. Bowie]

'Harnessing poxviral know-how for anti-cytokine therapies', *Journal of Biological Chemistry*, 294, 13 (2019), 5228-5229 [A.G. Bowie]

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Dunne, Aisling, 'Glyoxal cross-linking of solubilized extracellular matrix to produce highly porous, elastic, and chondro-permissive scaffolds for orthopedic tissue engineering', *Journal of Biomedical Materials Research, Part A* (2019), <http://hdl.handle.net/2262/91271> [D.C. Browe, O.R. Mahon, P.J. Diaz-Payno, N. Cassidy, I. Dudurych, A. Dunne, C.T. Buckley, D.J. Kelly]

'Plant-derived polyphenols modulate human dendritic cell metabolism and immune function via AMPK-dependent induction of heme oxygenase-1', *Frontiers in Immunology*, 10, MAR (2019), 00345 [N.K. Campbell, H.K. Fitzgerald, J.M. Fletcher, A. Dunne]

'S100A8 acts as an autocrine priming signal for heme-induced human M ϕ pro-inflammatory responses in hemolytic inflammation', *Journal of Leukocyte Biology*, 106, 1 (2019), 35-43 [A.A.A. Silveira, O.R. Mahon, C.C. Cunningham, E.M. Corr, R. Mendonza, S.T.O. Saad, F.F. Costa, A. Dunne, N. Conran]

'Chronic neurodegeneration induces type I interferon synthesis via STING, shaping microglial phenotype and accelerating disease progression', *Glia*, 67 (2019), 1254-1276 [A. Nazmi, R.H. Field, E.W. Griffin (...), A. Dunne, C. Cunningham]

Fletcher, Jean, 'Differential regulation of human Treg and Th17 cells by fatty acid synthesis and glycolysis', *Frontiers in Immunology*, 10 (2019), 115 [D. Cluxton, A. Petrasca, B. Moran, J.M. Fletcher]

'Plant-derived polyphenols modulate human dendritic cell metabolism and immune function via AMPK-dependent induction of heme oxygenase-1', *Frontiers in Immunology*, 10, MAR (2019), 00345 [N.K. Campbell, H.K. Fitzgerald, J.M. Fletcher, A. Dunne]

'Enrichment of polyfunctional IL-17 producing T cells in paradoxical psoriasis skin lesions', *The Journal of Investigative Dermatology* (2019), <http://dx.doi.org/10.1016/j.jid.2019.10.010> [B. Moran, C. Gallagher, A.M. Tobin, J.M. Fletcher]

Gardiner, Clair, 'Amino acid-dependent cMyc expression is essential for NK cell metabolic and functional responses in mice', *Nature Communications*, 9, 1 (2018), <http://hdl.handle.net/2262/85313> [R.M. Loftus, N. Assmann, N. Kedia-Mehta (...), C.M. Gardiner *et al.*]

'NK cell metabolism and TGF β - implications for immunotherapy', *Frontiers in Immunology*, 10, 2915 (2019), <http://hdl.handle.net/2262/91600> [K. Slattery, C.M. Gardiner]

'Suppression of natural killer cell NKG2D and CD226 anti-tumour cascades by platelet cloaked cancer cells: implications for the metastatic cascade', *PLoS ONE*, 14, 3 (2019), <http://hdl.handle.net/2262/91599> [C.D. Cluxton, C. Spillane, S.A. O'Toole, O. Sheils, C.M. Gardiner, J.J. O'Leary]

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- 'A novel vaccine strategy employing serologically different chimpanzee adenoviral vectors for the prevention of HIV-1 and HCV coinfection', *Frontiers in Immunology*, 10, JAN (2019), <http://hdl.handle.net/2262/91598> [F. Hartnell, A. Brown, S. Capone (...), C.M. Gardiner *et al.*]
- 'How to wake a killer', *Nature Immunology*, 20, 12 (2019), 1561-1563 [C.M. Gardiner]
- 'NK cell metabolism', *Journal of Leukocyte Biology*, 105, 6 (2019), 1235-1242 [C.M. Gardiner]
- Lavelle, Edward**, 'Cell survival and cytokine release after inflammasome activation is regulated by the toll-IL-1R protein SARM', *Immunity*, 50, 6 (2019), 1412-1424.e6 [M. Carty, J. Kearney, K.A. Shanahan (...), E.C. Lavelle *et al.*]
- 'Modulation of innate immunity by cyclosporine A', *Biochemical Pharmacology*, 163 (2019), 472-480 [A.M. Liddicoat, E.C. Lavelle]
- 'TLR4, but neither dectin-1 nor dectin-2, participates in the mollusk hemocyanin-induced proinflammatory effects in antigen-presenting cells from mammals', *Frontiers in Immunology*, 10, MAY (2019), <http://hdl.handle.net/2262/89348> [J.M. Jimenez, M.L. Salazar, S. Arancibia (...), E.C. Lavelle *et al.*]
- 'Divergent roles for the IL-1 family in gastrointestinal homeostasis and inflammation', *Frontiers in Immunology*, 10, JUN (2019), <http://hdl.handle.net/2262/89363> [C.P. McEntee, C.M. Finlay, E.C. Lavelle]
- 'Alpha-galactosylceramide enhances mucosal immunity to oral whole-cell cholera vaccines', *Mucosal Immunology*, 12, 4 (2019), 1055-1064 [C.J.H. Davitt, S. Longet, A. Albutti (...), J. Holmgren, E.C. Lavelle]
- 'Easy and effective method to generate endotoxin-free chitosan particles for immunotoxicology and immunopharmacology studies', *Journal of Pharmacy and Pharmacology*, 71, 6 (2019), 920-928 [F. Lebre, E.C. Lavelle, O. Borges]
- 'Editorial overview: Immunomodulation: striking the right balance: using immunomodulators to target infectious diseases, cancer, and autoimmunity', *Current Opinion in Pharmacology*, 41 (2018), vii-ix [E.C. Lavelle, J.B. McLachlan]
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- Lynch, Lydia**, 'Metabolic reprogramming of natural killer cells in obesity limits antitumor responses', *Nature Immunology*, 19, 12 (2018), 1330-1340 [X. Michelet, L. Dyck, A. Hogan (...), D. Finlay, L. Lynch]
- 'Lactate-mediated acidification of tumor microenvironment induces apoptosis of liver-resident NK cells in colorectal liver metastasis', *Cancer Immunology Research*, 7, 2 (2019), 335-346 [C. Harmon, M.W. Robinson, F. Hand, D. Almuaili, K. Mentor, D.D. Houlihan, E. Hoti, L. Lynch, J. Geoghegan, C. O'Farrelly]
- 'Erratum to: $\gamma\delta$ T cells producing interleukin-17A regulate adipose regulatory T cell homeostasis and thermogenesis (*Nature Immunology*, (2018), 19, 5, (464-474), 10.1038/s41590-018-0094-2)', *Nature Immunology*, 20, 3 (2019), 373 [A.C. Kohlgruber, S.T. Gal-Oz, N.M. LaMarche (...), M.B. Brenner, L. Lynch]
- 'Glucose-regulated phosphorylation of TET2 by AMPK reveals a pathway linking diabetes to cancer', *Nature*, 559, 7715 (2018), 637-641 [D. Wu, D. Hu, H. Chen (...), L. Lynch *et al.*]
- McLoughlin, Rachel**, 'Next-generation anti-*Staphylococcus aureus* vaccines: a potential new therapeutic option for atopic dermatitis?', *Journal of Allergy and Clinical Immunology*, 143, 1 (2019), 78-81 [J. Clowry, A.D. Irvine, R.M. McLoughlin]

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- 'Clumping factor B is an important virulence factor during *Staphylococcus aureus* skin infection and a promising vaccine target', *PLoS Pathogens*, 15, 4 (2019), e1007713 [K.A. Lacey, M.E. Mulcahy, A.M. Towell, J.A. Geoghegan, R.M. McLoughlin]
- 'Would hemodialysis patients benefit from a *Staphylococcus aureus* vaccine?', *Kidney International*, 95, 3 (2019), 518-525 [R. Connolly, M.D. Denton, H. Humphreys, R.M. McLoughlin]
- Mills, Kingston, 'Retinoic acid-induced autoantigen-specific type 1 regulatory T cells suppress autoimmunity', *EMBO Reports*, 20, 5 (2019), <http://dx.doi.org/10.15252/embr.201847121> [M. Raverdeau, M. Christofi, A. Malara (...), J.V. Forrester, K.H.G. Mills]
- 'Azithromycin clears *Bordetella pertussis* infection in mice but also modulates innate and adaptive immune responses and T cell memory', *Frontiers in Immunology*, 9(2018), 1764 [L. Borkner, A. Misiak, M.M. Wilk, K.H.G. Mills]
- 'Helminth products directly modulate T cells that mediate experimental autoimmune encephalomyelitis', *European Journal of Immunology* (2019), <http://dx.doi.org/10.1002/eji.201948147> [S.M. Quinn, M. Raverdeau, A.M. McGinley, K.H.G. Mills]
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