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## Research output

### **Alkyl Chain Length Governs Structure, Conformation and Antimicrobial Activity in Poly(alkylene biguanide)**

Al-Ani, E., Doudin, K., Mcbain, A., Ahmad, Z. & Freeman, S., 1 Feb 2026, In: *Polymers*. 18, 3, 390.

### **Discovery of Potent Benzothiazole Inhibitors of Oxidoreductase NQO2, a Target for Inflammation and Cancer**

Belgath, A. A., Emam, A. M., Taujanskas, J., Bryce, R. A., Freeman, S. & Stratford, I. J., 8 Nov 2024, In: *International Journal of Molecular Sciences*. 25, 22, 12025.

### **Virtual screening-led design of inhibitor scaffolds for the NLRP3 inflammasome**

El-Sayed, S., McMahon, E., Musleh, S., Freeman, S., Brough, D., Kasher, P. R. & Bryce, R. A., 22 Oct 2024, (E-pub ahead of print) In: *Bioorganic Chemistry*. 107909.

### **Discovery of an inhibitor of DNA-driven inflammation that preferentially targets the AIM2 inflammasome.**

Green, J., El-Sharkawy, L., Roth, S., Zhu, J., Cao, J., Leach, A., Liesz, A., Freeman, S. & Brough, D., 19 May 2024, In: *iScience*. 26, 5, 106758.

### **Brazilin is a Natural Product Inhibitor of the NLRP3 Inflammasome**

McMahon, E., El Sayed, S., Green, J., Hoyle, C., Fitzpatrick, L., Jones, E., Corrie, E., Kelly, R., Challinor, M., Freeman, S., Bryce, R., Lawrence, C. B., Brough, D. & Kasher, P., 16 Feb 2024, In: *iScience*. 27, 2, 108968.

### **Squaramides enhance NLRP3 inflammasome activation by lowering intracellular potassium**

Seoane, P. I., Beswick, J. A., Leach, A. G., Swanton, T., Morris, L. V., Couper, K., Lowe, M., Freeman, S. & Brough, D., 22 Dec 2023, In: *Cell death discovery*. 9, 1, 469.

### **Evaluation of 4-Aminoquinoline Hydrazone Analogues as Potential Leads for Drug-Resistant Malaria**

Magwaza, R., Abubaker, M., Hussain, B., Haley, M., Couper, K., Freeman, S. & Nirmalan, N., 6 Sept 2023, (E-pub ahead of print) In: *Molecules*. 28, 18, 6471.

### **Computational investigation of mechanisms for pH modulation of human chloride channels**

Elverson, K., Freeman, S., Manson, F. & Warwicker, J., 30 Jul 2023, In: *Molecules*. 28, 15, 5753.

### **Tadalafil Rescues the p.M325T Mutant of Best1 Chloride Channel**

Elverson, K., Warwicker, J., Freeman, S. & Manson, F., 8 Apr 2023, (E-pub ahead of print) In: *Molecules*. 28, 8, 3317.

### **Probing the effect of NEK7 and cofactor interactions on dynamics of NLRP3 monomer using molecular simulation**

El Sayed, S., Freeman, S. & Bryce, R. A., 1 Oct 2022, In: *Protein science*. 31, 10

### **Targeting firing rate neuronal homeostasis can prevent seizures**

Mulroe, F., Lin, W.-H., Scott, C.M.-G., Aourz, N., Fan, Y. N., Coutts, G., Parrish, R. R., Smolders, I., Trevelyan, A., Wykes, R., Allan, S., Freeman, S. & Baines, R., 1 Oct 2022, In: *DMM Disease Models and Mechanisms*. 15, 10

### **A Carvedilol Analogue, VKII-86, Prevents Hypokalaemia- induced Ventricular Arrhythmia through Novel multi-Channel Effects.**

Robinson, V., Alsalahat, I., Freeman, S., Antzelevitch, C., Barajas-Martinez, H. & Venetucci, L., 5 May 2022, In: *British Journal of Pharmacology*. 179, 11, p. 2713-2732 20 p.

**Arylisoquinolinones: meta-Substitution on the Aryl Ring Dramatically Enhances Antiproliferative Activity through Binding to Microtubules**

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**Selected Derivatives of Erythromycin B-In Silico and Anti-Malarial Studies**

Bhadra, P. K., Magwaza, R. N., Nirmalan, N., Freeman, S., Barber, J. & Arsic, B., 18 Nov 2021, In: Materials. 14, 22, 6980.

**Inhibition of aggregation of amyloid- $\beta$  through covalent modification with benzylpenicillin; potential relevance to Alzheimer's disease**

Alsahat, I., M. Al-Majdoub, Z., Taha, M., Barber, J., Aojula, H., Hodson, N. & Freeman, S., 1 Jul 2021, In: Biochemistry and Biophysics Reports. 26, 100943.

**LRRC8A is essential for hypotonicity-, but not for DAMP-induced NLRP3 inflammasome activation**

Green, J., Swanton, T., Morris, L., El-Sharkawy, L., Cook, J., Yu Shi, A., Beswick, J., Adamson, A., Humphreys, N., Bryce, R., Freeman, S., Lawrence, C. B. & Brough, D., 20 Nov 2020, In: eLife. 2020, 9, e59704.

**Selective inhibition of the K<sup>+</sup> efflux sensitive NLRP3 pathway by Cl<sup>-</sup> channel modulation**

Swanton, T., Beswick, J., Hammadi, H., Morris, L., Williams, D., De Cesco, S., El-sharkawy, L., Yu, S., Green, J., Davis, J., Lawrence, C., Brough, D. & Freeman, S., 12 Oct 2020, In: Chemical Science. 11, 43, p. 11720-11728 9 p.

**Resveratrol-mediated cleavage of amyloid beta(1-42) peptide: potential relevance to Alzheimer's disease: potential relevance to Alzheimer's disease**

Al-Edresi, S., Alsahat, I., Freeman, S., Aojula, H. & Penny, J., 1 Oct 2020, In: Neurobiology of Ageing. 94, 24, p. 24-33 10 p.

**Small Molecules Restore Bestrophin 1 Expression and Function of Both Dominant and Recessive Bestrophinopathies in Patient-Derived Retinal Pigment Epithelium.**

Liu, J., Taylor, R. L., Baines, R., Swanton, E., Freeman, S., Corneo, B., Patel, A., Marmorstein, A., Knudson, T., Black, G. & Manson, F., 18 May 2020, In: Investigative ophthalmology & visual science. 61, 5, 28.

**Discovery of potent 4-aminoquinoline hydrazone inhibitors of NRH:quinoneoxidoreductase-2 (NQO2)**

Freeman, S., Stratford, I., Kadirvel, M. & Bryce, R., 2019, In: European Journal of Medicinal Chemistry.

**Radiosynthesis and reactivity of N-[<sup>11</sup>C]methyl carbamoylimidazole**

Kadirvel, M., Cardoso, D., Freeman, S. & Brown, G., Aug 2018, In: Journal of Radioanalytical and Nuclear Chemistry. 317, 2

**Synthesis and antibacterial activities of enamine derivatives of dehydroacetic acid**

Freeman, S. & Ledder, R., Mar 2018, In: Medicinal Chemistry Research. DOI10.1007/s00044-017-2110-8.

**Design, Synthesis and Evaluation of Novel Oxazaborine Inhibitors of the NLRP3 Inflammasome**

Baldwin, A., Tapia Olivares, V., Swanton, T., White, C., Beswick, J., Brough, D. & Freeman, S., 2018, In: ChemMedChem.

**Development of a characterised tool kit for the interrogation of NLRP3 inflammasomedependent responses**

Redondo Castro, E., Faust, D., Fox, S., Baldwin, A., Osborne, S., Haley, M., Karran, E., Nuthall, H., Atkinson, P. J., Dawson, L. A., Routledge, C., Allan, S., Freeman, S., Brownlees, J. & Brough, D., 2018, In: Scientific Reports.

**Evaluation of analogues of furan-amidines as inhibitors of NQO2**

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### **Is targeting the inflammasome a way forward for neuroscience drug discovery?**

Swanton, T., Cook, J., Beswick, J., Freeman, S., Lawrence, C. B. & Brough, D., 2018, In: SLAS Discovery.

### **Boron based inhibitors of the NLRP3 inflammasome**

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### **In Vitro Evaluation of Third Generation PAMAM Dendrimer Conjugates**

Najlah, M., Freeman, S., Khoder, M., Attwood, D. & D'Emanuele, A., 4 Oct 2017, In: Molecules. 22, 10, 1661.

### **Pentapeptides for the treatment of small cell lung cancer: Optimisation by N<sup>ind</sup>-alkyl modification of the tryptophan side chain**

Abusara, O., Freeman, S. & Aojula, H., 8 Sept 2017, In: European Journal of Medicinal Chemistry. 137, p. 221-232 12 p.

### **N-tert-Prenylation of indole ring improves the cytotoxicity of a short antagonist G analogue against Small Cell Lung Cancer**

Offerman, S., Kadirvel, M., Abusara, O., Bryant, J., Telfer, B., Brown, G., Freeman, S., White, A., Williams, K. & Aojula, H., 2017, In: MedChemComm.

### **Fenamate NSAIDs inhibit the NLRP3 inflammasome and protect against Alzheimer's disease in rodent models**

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### **Non-symmetrical furan-amidines as novel leads for the treatment of cancer and malaria**

Alnabulsi, S., Santana, E., Russo, I., Hussein, B., Kadirvel, M., Chadwick, A., Bichenkova, E., Bryce, R., Nolan, K., Demonacos, C., Stratford, I. & Freeman, S., 23 Mar 2016, In: European Journal of Medicinal Chemistry. 111, p. 33-45 13 p.

### **Inhibiting the Inflammasome: A Chemical Perspective**

Baldwin, A., Brough, D. & Freeman, S., 12 Oct 2015, In: Journal of Medicinal Chemistry. 59, 5, p. 1691-1710

### **Inhibition of quorum sensing and biofilm formation in *Vibrio harveyi* by 4-fluoro-DPD; A novel potent inhibitor of AI-2 signalling**

Kadirvel, M., Fanimarvasti, F., Forbes, S., McBain, A., Gardiner, J. M., Brown, G. D. & Freeman, S., 21 May 2014, In: Chemical Communications. 50, 39, p. 5000-5002 2 p.

### **Integrated examinations: supporting students with team-based learning**

Hall, J., Freeman, S., Parmar, H. & Pluen, A., 25 Jan 2014, In: Pharmaceutical Journal. 292, 90, p. 90-91 1 p.

### **Detection of apoptosis by PET/CT with the diethyl ester of [18F]ML-10 and fluorescence imaging with a dansyl analogue**

Kadirvel, M., Fairclough, M., Cawthorne, C., Rowling, E. J., Babur, M., McMahon, A., Birkket, P., Smigova, A., Freeman, S., Williams, K. J. & Brown, G., 1 Jan 2014, In: Bioorganic and Medicinal Chemistry. 22, 1, p. 341-349 8 p.

### **Team Based Learning: Preparing pharmacy students for an integrated curriculum during induction**

Hall, J., Freeman, S., Parmar, H. & Pluen, A., 2014, In: Pharmacy Education (Print). 14, 1, p. 81-85 4 p.