

Dr. Euan R. Brown  
Associate Professor  
School of Engineering & Physical Sciences  
Institute of Biological Chemistry, Biophysics and Bioengineering  
**Postal address:**  
Riccarton  
Edinburgh  
United Kingdom  
**Email:** Euan.R.Brown@hw.ac.uk



## Qualifications

... → 1992 PhD Physiology University of London

... → 1987 BSc (Hons) Physiology, King's College University of London

## Research output

### **Neuronal cholesterol synthesis is essential for repair of chronically demyelinated lesions in mice**

Berghoff, S. A., Spieth, L., Sun, T., Hosang, L., Depp, C., Sasmita, A. O., Vasileva, M. H., Scholz, P., Zhao, Y., Krueger-Burg, D., Wichert, S., Brown, E. R., Michael, K., Nave, K.-A., Bonn, S., Odoardi, F., Rossner, M., Ischebeck, T., Edgar, J. M. & Saher, G., 13 Aug 2021.

### **An in vitro model for studying CNS white matter: functional properties and experimental approaches**

Bijland, S., Thomson, G., Euston, M., Michail, K., Thümmeler, K., Mücklich, S., Crawford, C. L., Barnett, S. C., McLaughlin, M., Anderson, T. J., Linington, C., Brown, E. R., Kalkman, E. R. & Edgar, J. M., 29 Jan 2019, In: *F1000Research*. 8, 117.

### **Zinc Oxide Nanoparticles and Voltage-Gated Human Kv11.1 Potassium Channels Interact through a Novel Mechanism**

Piscopo, S. & Brown, E. R., 26 Feb 2018, (E-pub ahead of print) In: *Small*. 14, 15, 1703403.

### **Chapter 6: Primary Production, Cycling of Nutrients, Surface Layer and Plankton**

Malone, T., Azzaro, M., Bode, A., Brown, E. R., Duce, R., Kamykowski, D., Sung-Ho, K., Kedong, Y., Thorndyke, M., Wang, J., Park, C., Calumpong, H. & Egtesadi Araghi, P., 23 Dec 2015, *First Global Integrated Marine Assessment, also known as the first World Ocean Assessment: World Ocean Assessment I*. United Nations, 67 p.

### **Class I PI 3-kinases: Function and evolution**

Kriplani, N., Hermida Ayala, M., Brown, E. R. & Leslie, N. R., Sep 2015, In: *Advances in Biological Regulation*. 59, p. 53-64 12 p.

### **Mechanism of neutrophil activation and toxicity elicited by engineered nanomaterials**

Johnston, H. J., Brown, D. M., Kanase, N., Euston, M., Gaiser, B. K., Robb, C. T., Dyrinda, E., Rossi, A. G., Brown, E. R. & Stone, V., Aug 2015, In: *Toxicology in Vitro*. 29, 5, p. 1172-1184 13 p.

### **A molecular toggle after exocytosis sequesters the presynaptic syntaxin1a molecules involved in prior vesicle fusion**

Kavanagh, D., Smyth, A. M., Martin, K. J., Dun, A., Brown, E. R., Gordon, S., Smillie, K. J., Chamberlain, L. H., Wilson, R. S., Yang, L., Lu, W., Cousin, M. A., Rickman, C. & Duncan, R. R., 2014, In: *Nature Communications*. 5, 5774.

### **Synaptic plasticity in cephalopods; more than just learning and memory?**

Brown, E. R. & Piscopo, S., Jun 2013, In: *Invertebrate Neuroscience*. 13, 1, p. 35-44 10 p.

### **Highly conserved elements discovered in vertebrates are present in non-syntenic loci of tunicates, act as enhancers and can be transcribed during development**

Sanges, R., Hadzhiev, Y., Gueroult-Bellone, M., Roure, A., Ferg, M., Meola, N., Amore, G., Basu, S., Brown, E. R., De Simone, M., Petreca, F., Licastro, D., Strahle, U., Banfi, S., Lemaire, P., Birney, E., Muller, F. & Stupka, E., Apr 2013, In: *Nucleic Acids Research*. 41, 6, p. 3600-3618 19 p., 1.

**Evidence for dynamic and multiple roles for huntingtin in *Ciona intestinalis***

Idris, M. M., Thorndyke, M. C. & Brown, E. R., 2013, In: *Invertebrate Neuroscience*. 13, 2, p. 151-165 15 p.

**Imaging large cohorts of single ion channels and their activity**

Hiersemenzel, K., Brown, E. R. & Duncan, R. R., 2013, In: *Frontiers in Endocrinology*. 4, p. 114

**Monoaminergic modulation of photoreception in ascidian: evidence for a proto-hypothalamo-retinal territory**

Razy-Krajka, F., Brown, E. R., Horie, T., Callebert, J., Sasakura, Y., Joly, J-S., Kusakabe, T. G. & Vernier, P., 19 May 2012, In: *BMC Biology*. 10, n/a, 14 p., 45.

**Ion channels in key marine invertebrates; their diversity and potential for applications in biotechnology**

Brown, E. R. & Piscopo, S., 2011, In: *Biotechnology Advances*. 29, 5, p. 457-467 11 p.

**A glycine receptor is involved in the organization of swimming movements in an invertebrate chordate**

Nishino, A., Okamura, Y., Piscopo, S. & Brown, E. R., 19 Jan 2010, In: *BMC Neuroscience*. 11, n/a, 6.

**Nitric oxide mediates the glutamate-dependent pathway for neurotransmission in *Sepia officinalis* chromatophore organs**

Mattiello, T., Fiore, G., Brown, E. R., d'Ischia, M. & Palumbo, A., 2010, In: *Journal of Biological Chemistry*. 285, 31, p. 24154-63 10 p.

**Morphology of antennular sensors in *Clausocalanus furcatus* (Copepoda : Calanoida)**

Uttieri, M., Brown, E. R., Boxshall, G. A. & Mazzocchii, M. G., May 2008, In: *Journal of the Marine Biological Association of the United Kingdom*. 88, 3, p. 535-541 7 p.

**Natural variation of model mutant phenotypes in *Ciona intestinalis***

Sordino, P., Andreakis, N., Brown, E. R., Leccia, N. I., Squarzone, P., Tarallo, R., Alfano, C., Caputi, L., D'Ambrosio, P., Daniele, P., D'Aniello, E., D'Aniello, S., Maiella, S., Miraglia, V., Russo, M. T., Sorrenti, G., Branno, M., Cariello, L., Cirino, P., Locascio, A. & 3 others, Spagnuolo, A., Zanetti, L. & Ristatore, F., 2008, In: *PLoS ONE*. 3, 6, e2344.

**Primary cultures of nervous system cells from the larva of the ascidian *Ciona intestinalis***

Zanetti, L., Ristatore, F., Francone, M., Piscopo, S. & Brown, E. R., 30 Sep 2007, In: *Journal of Neuroscience Methods*. 165, 2, p. 191-197 7 p.

**Ammonium channel expression is essential for brain development and function in the larva of *Ciona intestinalis***

Marino, R., Melillo, D., Di Filippo, M., Yamada, A., Pinto, M. R., De Santis, R., Brown, E. R. & Matassi, G., 1 Jul 2007, In: *Journal of Comparative Neurology*. 503, 1, p. 135-147 13 p.

**Modulation of an AMPA-like glutamate receptor (SqGluR) gating by L- and D-aspartic acids**

Brown, E. R., Piscopo, S., Chun, J. T., Francone, M., Mirabile, I. & D'Aniello, A., 1 Jan 2007, In: *Amino Acids*. 32, 1, p. 53-57 5 p.

**Pre- and postsynaptic excitation and inhibition at octopus optic lobe photoreceptor terminals; implications for the function of the 'presynaptic bags'**

Piscopo, S., Moccia, F., Di Cristo, C., Caputi, L., Di Cosmo, A. & Brown, E. R., 2007, In: *European Journal of Neuroscience*. 26, 8, p. 2196-203 8 p.

**The genome of the sea urchin *Strongylocentrotus purpuratus***

Sodergren, E., Weinstock, G. M., Davidson, E. H., Cameron, R. A., Gibbs, R. A., Angerer, R. C., Angerer, L. M., Arnone, M. I., Burgess, D. R., Burke, R. D., Coffman, J. A., Dean, M., Elphick, M. R., Etensohn, C. A., Foltz, K. R., Hamdoun, A., Hynes, R. O., Klein, W. H., Marzluff, W., McClay, D. R. & 31 others, Morris, R. L., Mushegian, A., Rast, J. P., Smith, L. C., Thorndyke, M. C., Vacquier, V. D., Wessel, G. M., Wray, G., Zhang, L., Elsik, C. G., Ermolaeva, O., Hlavina, W., Hofmann, G., Kitts, P., Landrum, M. J., Mackey, A. J., Maglott, D., Panopoulou, G., Poustka, A. J., Pruitt, K., Sapozhnikov, V., Song, X., Souvorov, A., Solovyev, V., Wei, Z., Whittaker, C. A., Worley, K., Durbin, K. J., Shen, Y., Brown, E. R. & Sea Urchin Genome Sequencing Consortium, 10 Nov 2006, In: *Science*. 314, 5801, p. 941-952 12 p.

**Brain and behavioural evidence for rest-activity cycles in *Octopus vulgaris***

Brown, E. R., Piscopo, S., De Stefano, R. & Giuditta, A., 25 Sep 2006, In: Behavioural Brain Research. 172, 2, p. 355-359 5 p.

**Development of swimming behaviour in the larva of the ascidian *Ciona intestinalis***

Zega, G., Thorndyke, M. C. & Brown, E. R., Sep 2006, In: Journal of Experimental Biology. 209, 17, p. 3405-3412 8 p.

**The ascidian homolog of the vertebrate homeobox gene *Rx* is essential for ocellus development and function**

D'Aniello, S., D'Aniello, E., Locascio, A., Memoli, A., Corrado, M., Russo, M. T., Aniello, F., Fucci, L., Brown, E. R. & Branno, M., Jun 2006, In: Differentiation. 74, 5, p. 222-234 13 p.

**D-aspartic acid in the nervous system of *Aplysia limacina*: possible role in neurotransmission**

Spinelli, P., Brown, E. R., Ferrandino, G., Branno, M., Montarolo, P. G., D'Aniello, E., Rastogi, R. K., D'Aniello, B., Baccari, G. C., Fisher, G. & D'Aniello, A., Mar 2006, In: Journal of Cellular Physiology. 206, 3, p. 672-681 10 p.

**GABAergic synaptic transmission modulates swimming in the ascidian larva**

Brown, E. R., Nishino, A., Bone, Q., Meinertzhagen, I. A. & Okamura, Y., Nov 2005, In: European Journal of Neuroscience. 22, 10, p. 2541-2548 8 p.

**Alteration and recovery of appetitive behaviour following nerve section in the starfish *Asterias rubens***

Piscopo, S., De Stefano, R., Thorndyke, M. C. & Brown, E. R., 14 Oct 2005, In: Behavioural Brain Research. 164, 1, p. 36-41 6 p.

**Functional recovery of locomotion in denervated starfish (*Asterias rubens*)**

Piscopo, S., De Stefano, R., Thorndyke, M. C. & Brown, E. R., Jul 2005, In: Comparative Biochemistry and Physiology Part A: Molecular and Integrative Physiology. 141, 3, p. S123 1 p.

**A learning and memory area in the octopus brain manifests a vertebrate-like long-term potentiation**

Hochner, B., Brown, E. R., Langella, M., Shomrat, T. & Fiorito, G., 1 Nov 2003, In: Journal of Neurophysiology. 90, 5, p. 3547-3554 8 p.

**Ca<sup>2+</sup> signalling and membrane current activated by cADPr in starfish oocytes**

Moccia, F., Nusco, G. A., Lim, D., Ercolano, E., Gagnaniello, G., Brown, E. R. & Santella, L., 1 Aug 2003, In: Pflügers Archiv European Journal of Physiology. 446, 5, p. 541-552 12 p.

**AMPA/kainate and NMDA-like glutamate receptors at the chromatophore neuromuscular junction of the squid: role in synaptic transmission and skin patterning**

Lima, P. A., Nardi, G. & Brown, E. R., Feb 2003, In: European Journal of Neuroscience. 17, 3, p. 507-516 10 p.

**Ionic currents in isolated and in situ squid Schwann cells**

Inoue, I., Tsutsui, I., Abbott, N. J. & Brown, E. R., 15 Jun 2002, In: Journal of Physiology. 541, 3, p. 769-778 10 p.

**Effect of glycine on synaptic transmission at the third order giant synapse of the squids *Alloteuthis subulata* and *Loligo vulgaris***

Vinogradova, I. M., Zajicek, J., Gentile, S. & Brown, E. R., 31 May 2002, In: Neuroscience letters. 325, 1, p. 42-46 5 p.

**Differential sensitivity to calcisepetine of L-type Ca<sup>2+</sup> currents in a 'lower' vertebrate (*Scyliorhinus canicula*), a protochordate (*Branchiostoma lanceolatum*) and an invertebrate (*Alloteuthis subulata*)**

Rogers, C. M. & Brown, E. R., Nov 2001, In: Experimental Physiology. 86, 6, p. 689-694 6 p.

**Ca<sup>2+</sup> dynamics in synaptosomes isolated from the squid optic lobe**

Benech, J. C., Lima, P. A., Sotelo, J. R. & Brown, E. R., 15 Dec 2000, In: Journal of Neuroscience Research. 62, 6, p. 840-846 7 p.

**Different excitation-contraction coupling mechanisms exist in squid, cuttlefish and octopod mantle muscle**

Rogers, C. M., Nelson, L., Milligan, B. J. & Brown, E. R., Dec 1997, In: Journal of Experimental Biology. 200, 23, p. 3033-3041 9 p.

**K<sup>+</sup> accumulation and K<sup>+</sup> conductance inactivation during action potential trains in giant axons of the squid *Sepioteuthis***

Inoue, I., Tsutsui, I. & Brown, E. R., 15 Apr 1997, In: Journal of Physiology. 500, 2, p. 355-366 12 p.

**Coupling between giant axon Schwann cells in the squid**

Brown, E. R. & Kukita, F., 22 May 1996, In: Proceedings of the Royal Society B: Biological Sciences. 263, 1370, p. 667-672 6 p.

**On the respiratory flow in the cuttlefish *sepia officinalis***

Bone, Q., Brown, E. & Travers, G., Sep 1994, In: Journal of Experimental Biology. 194, p. 153-165 13 p.

**Evolution of skeletal muscle excitation-contraction coupling and the appearance of dihydropyridine-sensitive intramembrane charge movement**

Inoue, I., Tsutsui, I., Bone, Q. & Brown, E. R., 22 Feb 1994, In: Proceedings of the Royal Society B: Biological Sciences. 255, 1343, p. 181-187 7 p.

**Ultrastructure and permeability of the Schwann cell layer surrounding the giant axon of the squid**

Brown, E. R. & Abbott, N. J., Apr 1993, In: Journal of Neurocytology. 22, 4, p. 283-298 16 p.

**Membrane potential in squid Schwann cells: Stable impalements in the split open giant axon preparation of *Loligo***

Brown, E. R. & Abbott, N. J., 1992, In: Journal of Physiology. 446, p. 320P

## Activities

**European Commission (External organisation)**

Euan R Brown (Member)  
1 Jun 2016 → 19 Jul 2016

**UN Division for Ocean Affairs and the Law of the Sea (External organisation)**

Euan R Brown (Member)  
23 Dec 2015

**European Commission (External organisation)**

Euan R Brown (Member)  
11 Nov 2015 → 11 Dec 2015

**Explorathon'15**

Euan R Brown (Speaker)  
3 Sep 2015

**Frontiers in Cellular Neuroscience (Journal)**

Euan R. Brown (Editorial board member)  
2015 → ...

**Frontiers in Cellular Neuroscience (Journal)**

Euan R Brown (Editorial board member)  
1 Jun 2013 → ...

**European Commission (External organisation)**

Euan R Brown (Advisor)

4 Jun 2012 → 14 Jun 2012

**Biotechnology & Biological Sciences Research Council (External organisation)**

Euan R Brown (Member)

13 Dec 2010

**Presentations at Brain Awareness Week 2010**

Euan R Brown (Speaker)

2010

**Presentations at Brain Awareness Week 2009**

Euan R Brown (Speaker)

2009

**European Marine Biological Resource Centre (External organisation)**

Euan R Brown (Member)

Jan 2008 → 1 Sep 2012

**Invertebrate Neuroscience (Journal)**

Euan R Brown (Editorial board member)

2008 → 2010

**Presentations at Brain Awareness Week 2008**

Euan R Brown (Speaker)

2008