

Dr Paul L Chazot FBPhS

BSc (Hons) Imperial College; PhD Kent



Research specialization: Pharmacology and Toxicology; Age-related neurological disease; Chronic neuropathic pain; Health and Wellbeing; Critical Care; Delirium; Molecular and behavioral neuroscience; natural products; drug discovery and target validation.

Experience: 20 years as an academic. Associate Professor of Pharmacology. Leads research in pharmacology and Pain at Durham University, UK. Fellow of the British Pharmacological Society; President of the European Histamine Research Society; Chair of NC-IUPHAR Subcommittee; Associate Member, Alzheimer's Research UK; Vice Chair of EU-COST Action BM0806; President of Parkinson's UK Durham Branch; Previous Associate Director and ongoing Fellow of the Wolfson Research Institute for Health and Wellbeing. Previous Committee member of the British Neuroscience Association; Director of Pain Special Interest Groups; Editorial board for two journals and provides regular journal and international funding body peer review.

Research overview: My research group focuses on the identification, characterization and validation of novel therapeutic strategies and drug targets for the treatment of the major acute and chronic CNS, pain and metabolic disorders. We also are developing novel behavioral tests for both rodents, drosophila and humans, including a novel tool for objectively measuring pain. Bioprospecting novel therapeutics from indigenous natural products from four continents. Photobiomodulation programme for CNS & non-CNS disorders currently in the clinic. Four Patents filed, two for animal behavioral tests and two for novel drugs (one synthetic and one natural product)

Postgraduate supervision: Currently supervising 2 Research Fellows, 1 Postdoc, 4 PhD students and 1 Masters by Research students. Supervised over 30 PhD students and Masters theses students to completion. Topics have ranged from Pain targets and drug candidate development, neurological target validation, neurological natural products to the clinic. Examined over 30 PhD, MD, MPhil and MRes students.

Research publications: Pubmed peer-reviewed publications in journals (116), book chapters (6) and H-factor = 37.

Example publications:

1. Histamine and delirium: an opinion. (2019) *Frontiers in Pharmacology* (in press)
2. Role of histamine H4 receptor ligands in bleomycin-induced pulmonary fibrosis. *Pharmacol Res.* 2016 Sep;111:740-748
3. Volatile Terpenes and Brain Function: Investigation of the Cognitive and Mood Effects of Mentha × Piperita L. Essential Oil with In Vitro Properties Relevant to Central Nervous System Function. *Nutrients.* 2018 Aug 7;10(8). pii: E1029.
4. Bio-prospecting endemic Mascarene *Aloes* for potential neuroprotectants. *Phytother Res.* 2017 Oct 11. doi: 10.1002/ptr.5941. [Epub ahead of print]
5. Pharmacological and neuroprotective profile of an essential oil derived from leaves of *Aloysia citrodora Palau*. *J Pharm Pharmacol.* 2015 Sep;67(9):1306-15.
6. A double-blind placebo-controlled randomized trial of *Melissa officinalis* oil and donepezil for the treatment of agitation in Alzheimer's disease. *Dement Geriatr Cogn Disord.* 2011;31(2):158-64.
7. Pharmacological profile of essential oils derived from *Lavandula angustifolia* and *Melissa officinalis* with anti-agitation properties: focus on ligand-gated channels. *J Pharm Pharmacol.* 2008 Nov;60(11):1515-22.
8. Pre-training in a radial arm maze abolished anxiety and impaired habituation in C57BL6/J mice treated with dizocilpine. *Physiol Behav.* 2016 Oct 1;164(Pt A):353-60.
9. Preclinical animal anxiety research - flaws and prejudices. *Pharmacol Res Perspect.* 2016 Mar 8;4(2):e00223.
10. Distinguishing anxiolysis and hyperactivity in an open space behavioral test. *Behav Brain Res.* 2010 Feb 11;207(1):84-98.
11. Detailed analysis of the behavior and memory performance of middle-aged male and female CD-1 mice in a 3D maze. *Behav Brain Res.* 2008 Mar 5;187(2):312-26.
12. Models of anxiety: responses of mice to novelty and open spaces in a 3D maze. *Behav Brain Res.* 2006 Nov 1;174(1):9-38
13. Histamine H4 receptor antagonism prevents the progression of diabetic nephropathy in male DBA2/J mice. *Pharmacol Res.* 2018 Feb;128:18-28
14. Ligand autoradiographical quantification of histamine H3 receptor in human dementia with Lewy bodies. *Pharmacol Res.* 2016 Nov;113(Pt A):245-256.
15. The histamine H4 receptor is a potent inhibitor of adhesion-dependent degranulation in human neutrophils. *J Leukoc Biol.* 2014 Sep;96(3):411-8.
16. Alterations in the histaminergic system in the substantia nigra and striatum of Parkinson's patients: a postmortem study. *Neurobiol Aging.* 2012 Jul;33(7):1488.e1-13.

17. Photobiomodulation and Other Light Stimulation Procedures. 2017. Chapter 4. *Rhythmic stimulation procedures in Neuromodulation*. Editors: James R Evans & Robert A Turner.
18. Low-Intensity Light Therapy (1068 nm) Protects CAD Neuroblastoma Cells from β -Amyloid-Mediated Cell Death. *Biology and Medicine* (2015) 7 (1)
19. Non-invasive infra-red therapy (1072nm) reduces β -amyloid protein levels in the brain of an Alzheimer's disease mouse model, TASTPM. *J Photochem Photobiol B*. 2013 Jun 5;123:13-22.
20. Emotional responses and memory performance of middle-aged CD1 mice in a 3D maze: effects of low infrared light. *Neurobiol Learn Mem*. 2008;89(4):480-8.
21. Probing the differential effects of infrared light sources IR1072 and IR880 on human lymphocytes: evidence of selective cytoprotection by IR1072. *J Photochem Photobiol B*. 2005 Oct 3;81(1):9-14.
22. The Pain Divide: a cross-sectional analysis of chronic pain prevalence, pain intensity and opioid utilisation in England. *BMJ Open*. 2018 Sep 11;8(7):e023391. doi: 10.1136/bmjopen-2018-023391.
23. Can H₂-receptor upregulation and raised histamine explain an anaphylactoid reaction on cessation of ranitidine in a 19-year-old female? A case report. *Br J Clin Pharmacol*. 2018 Jul;84(7):1611-1616
24. Histamine in diabetes: Is it time to reconsider? *Pharmacol Res*. 2016 Sep;111:316-324.
25. Altered GABAA α 5 subunit expression in the hypothalamic paraventricular nucleus of hypertensive and pregnant rats. *Neurosci Lett*. 2016 May 4;620:148-53.
26. International Union of Basic and Clinical Pharmacology. XCVIII. Histamine Receptors. *Pharmacol Rev*. 2015 Jul;67(3):601-55. doi: 10.1124/pr.114.010249
27. Effects of chronic fluoxetine treatment on anxious behaviour of BALB/c mice in a 3-dimensional maze. *Stress*. 2015;18(6):677-85.
28. Activation of histamine H3 receptor decreased cytoplasmic Ca(2+) imaging during electrical stimulation in the skeletal myotubes. *Eur J Pharmacol*. 2015 May 5;754:173-8.
29. Identification of histamine receptor subtypes in skeletal myogenesis. *Mol Med Rep*. 2015 Apr;11(4):2624-30
30. Histamine type 1-receptor activation by low dose of histamine undermines human glomerular slit diaphragm integrity. *Pharmacol Res*. 2016 Dec;114:27-38.
31. Antagonism of histamine H4 receptors exacerbates clinical and pathological signs of experimental autoimmune encephalomyelitis. *Br J Pharmacol*. 2013 Sep;170(1):67-77
32. Histamine transport and metabolism are deranged in salivary glands in Sjogren's syndrome. *Rheumatology (Oxford)*. 2013 Sep;52(9):1599-608
33. First identification of H₄ histamine receptor in healthy salivary glands and in focal sialadenitis in Sjögren's syndrome. *Arthritis Rheum*. 2012 Aug;64(8):2663-8.
34. Alterations in the histaminergic system in the substantia nigra and striatum of Parkinson's patients: a postmortem study. *Neurobiol Aging*. 2012 Jul;33(7):1488.
35. Histamine H4 receptors modulate dendritic cell migration through skin--immunomodulatory role of histamine. *Allergy*. 2008 Oct;63(10):1387-94
36. Immunohistochemical localization of histamine H3 receptors in rodent skin, dorsal root ganglia, superior cervical ganglia, and spinal cord: potential antinociceptive targets. *Pain*. 2007 May;129(1-2):76-92
37. The histamine H4 receptor is functionally expressed on neurons in the mammalian CNS. *Br J Pharmacol*. 2009 May;157(1):55-63.

Paul L Chazot BSc (hons) ARCS PhD FBPhS

Associate Professor
Department of Biosciences
DURHAM UNIVERSITY
South Road, Durham,
DH1 3LE, UK.