

CV (Prof. Riccardo Brambilla)

Riccardo Brambilla (orcid.org/0000-0003-3569-5706) has been working in the field of signal transduction since 1987 and in molecular neuroscience since 1993, being post-doctoral fellow in the laboratory of Ruediger Klein at the European Molecular Biology Laboratory. In Heidelberg he learned mouse genetics techniques such as gene targeting and successfully applied them to the neurobiology of learning and memory. In particular he generated the Ras-GRF1 KO mouse strain that was the first published genetic model demonstrating a direct involvement of the Ras-ERK-CREB signalling cascade in behavioural plasticity (Brambilla et al, Nature, 1997). During the last 25 years as a group leader Prof. Brambilla has continued to work on the role of synaptic signalling in behavioural plasticity and neuropsychiatric disorders. In his seminal paper in 2002, he demonstrated that loss of ERK1 MAP kinase, a gene recently implicated in certain forms of autism, results in procedural learning improvements and in increased synaptic plasticity in the striatum (Mazzucchelli et al, 2002, Neuron). This phenotype is due to an abnormal hyperactivation of the remaining ERK2 isoform, suggesting a potential mechanism for some autism spectrum disorders associated to deregulated cell signalling in the brain (Vantaggiato et al, 2006, J Biol). In more recent years, Prof. Brambilla has published important works on the role of Ras-GRF1, a synaptic integrator of Ras-ERK signalling the basal ganglia, in pathological processes such as drug addiction and L-DOPA induced Dyskinesia (Fasano et al, 2009, Biol Psych, cited so far 74 times; Fasano et al, 2010, PNAS, cited so far 115 times, Cerovic et al, 2015 Biol Psych). In 2016-18, Prof Brambilla has published three important papers which at the basis of the current drug development programme in ID and ASD (Papale et al, 2017, Biol Psych; Papale et al, 2016, E-Life; Pucilowska et al, 2018, J Neurosci).

In recent years his laboratory has developed new molecular biology tools to modulate gene expression in the brain via lentiviral vectors and cell permeable peptides (CPP). In particular, he recently patented CPPs able to either block or potentiate Ras-ERK signalling in the brain and he will try to develop them into clinically relevant therapeutics for several neuropsychiatric disorders.

A. Education

University of Milan (Milan, Italy) BSc 1988

University of Milan (Milan, Italy) PhD 1992

European Molecular Biology Laboratory (Heidelberg, Germany) Post-Doc 1992-1997

B. Current Positions

Since July 2015: Professor of Neuroscience, Cardiff School of Biosciences and Neuroscience and Mental Health Research Institute, Cardiff, UK

Since October 2020: Professor of Neuroscience and Neuropsychopharmacology (part-time), University of Pavia, Italy

C. Past Positions

From January 2003 to June 2015: Senior Group Leader (Junior Group Leader from 1998-2002), Research Unit Head (Molecular Genetics of Behaviour), San Raffaele Scientific Institute, Milano, Italy.

D. Scientific and Editorial Boards

Since 2014: Member of the Consolidator Grant Panel LS5 “Neurosciences and Neurological Disorders” of the European Research Council (ERC)

2011-2014: Panel Member of ANR (Agence Nationale de la Recherche, France) (Neuroscience and Physiopathology)

Since 2011: Member of the Editorial Board of Synapse.

2008-2009: Panel President and Member of AERES (Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur) Panels (Neuroscience)

Since 2010: Associated Editor of Frontiers in Behavioral Neuroscience.

From 2006-2012: President of the European Molecular and Cellular Cognition Society (EMCCS).

D. Funding (Current and Recent Past)

Title: Mechanisms of aberrant cortical development in 16p11.2 deletion and duplication models of autism and intellectual disability

Source: Wellcome Trust (WT)

Duration: 18 months, 2020-2021
Total contribution: 60696 GBP

Title: Targeting ERK signalling to ameliorate intellectual disability and autism spectrum disorder associated with chromosomal rearrangements at 16p11.2

Source: Medical Research Council (MRC)(Programme Grant)

Duration: 48 months, (2019-2023)

Total contribution: 1,497,536 GBP

Title: Mesolimbic neuregulin-ErbB4 signaling in addiction disorders

Source: EC/WG

Duration: 3 years, 2018-2020

Total contribution: 245118 GBP

Title: Dissecting the role of Ras-ERK signalling in neurodevelopmental disorders

Source: Waterloo Foundation/Wellcome Trust

Duration: 24 months, (2017-2019)

Total contribution: 54,680 GBP

Title: Advanced pharmacological characterisation of a novel neuroprotective and cognitive enhancer drug for the treatment of neurodegenerative disorders

Source: MRC Confidence in Concept (CiC)

Duration: 12 months, (2018-2019)

Total contribution: 77464 GBP

Title: Deciphering the role of ERK signalling enhancement in models of mild cognitive impairment (MCI)

Source: WT

Duration: 18 months, 2018-2019

Total contribution: 100000 GBP