Francesca Massenzio

Date of birth 14/04/1989, Italian.

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WORK EXPERIENCES

June 2017 - March 2019
POSTDOCTORAL RESEARCH ASSOCIATE
Department of Basic and Clinical Neuroscience
King's College London
Maurice Wohl Clinical Neuroscience Institute
5 Cutcombe Road, Brixton, SE5 9RT, London, UK
Dott. Jemeen Sreedharan Laboratory

March 2017 - May 2017
POSTDOC RESEARCH SCIENTIST
The Babraham Institute, Building 540,
Babraham Research Campus, Cambridge, UK
Signalling ISP Laboratory
Dott. Jemeen Sreedharan /Dott. Michael Coleman Laboratory

EDUCATION

April 2017	**Doctor Europaeus** **Academic Recruitment Field: 05/D1** **Academic Discipline: BIO/09 Physiology** Department of Pharmacy and Biotechnology University of Bologna, Italy. Neurobiology Laboratory (Supervisor: Prof.ssa Barbara Monti). Thesis: Physiopathological protein release by glial cells: focus on Purine Nucleoside Phosphorylase (PNP), Superoxide Dismutase 1 (SOD1) and α-synuclein (α-syn).
February 2016 *August 2016*	*Visiting PhD Student (Marco Polo fellowship)* The Babraham Institute, Building 540, Babraham Research Campus, Cambridge, UK Signalling ISP Laboratory (Supervisor: Dott. Jemeen Sreedharan)

July 2013	**Master's Degree in Molecular and Cellular Biology (LM-6) 110/110 cum laude (first-class honours)** University of Bologna. Neurobiology Laboratory (Supervisor: Prof.ssa Barbara Monti). Thesis: Modulation of Apolipoprotein E release by microglial cells in physiophatological conditions *in vitro.*
October 2011	**Bachelor's Degree in Biology (L-13) 110/110 cum laude (first-class honours)** University of Urbino.Thesis: Synaptic plasticity induced by the Brain-Derived Neurotrophic Factor (BDNF).

LANGUAGES

- **Italian:** mother tongue
- **English:** C1

JOB RELATED SKILLS

- Primary murine cultures of glial cells
- Primary culture of cerebellar granule neurons
- Co-culture (glial cells/neurons)
- Embryonic culture of motor neurons
- Embryonic and neonatal culture of cortical neurons
- Immortalized cell lines
- Transfection (Lipofectamine, Electroporation, NeuroMag, TurboFect)
- Western Blot
- Immunocytochemistry
- Vesicles extraction
- Genotyping/PCR
- Cell viability assay/Toxicity assay (MTT, Luciferase Assay)
- Small drugs screening (Neuroprotection/Neurotoxicity)
- Fluorescence microscopy
- Confocal microscopy (Spinning Disc Confocal Microscope, Nikon A1R Inverted Microscope)
- High Content Screening (Opera Phenix/Harmony Software)
- Live cell microscopy
- Handling and breeding of mice

COMPUTER SKILLS

- good command of Microsoft Office™ tools (Word, Excel, PowerPoint)
- good command of specific software (GraphPad Prism, ImageJ, Image Lab, Image Studio Lite, ZEN, NIS Elements, Harmony, Volocity)
- good command of specific database (NCBI, Pubmed, Ensemble Genome)

COURSES AND CERTIFICATES

- Radioisotopes in biology.
- Horizon 2020 - The EU framework Programme for research and Innovation (2014-2020).
- Calorimetry, light scattering and circular dichroism.
- Mitochondrial reticulum dynamics.
- Basic course in Laboratory Animal Science in collaboration with AISAL (Italian Association for Laboratory Animal Sciences).
- Training Course for E1/L (National Legislation, Ethics, Animal Welfare and the 3Rs), PIL A, B, C. Number: **TLC/17/172** Date: **31st July 2017.**

PUBLICATIONS

- Soares Romeiro, L.A., da Costa Nunes, J.L., de Oliveira Miranda, C., Simões Heyn Roth Cardoso, G., de Oliveira, A.S., Gandini, A., Kobrlova, T. Soukup, O., Rossi, M., Senger, J., Jung. M., Gervasoni, S., Vistoli, G., Petralla, S., **Massenzio, F**., Monti, B., Bolognesi, M.L. (2019) Novel Sustainable-by-Design HDAC Inhibitors for the Treatment of Alzheimer's Disease, *ACS Med Chem Lett. 10(4):671-676.*
- Uliassi, E., Pena-Altamira, L. E., Morales, A. V., **Massenzio, F**., Petralla, S., Rossi, M., Roberti, M., Martinez Gonzalez, L., Martinez, A., Monti, B., and Bolognesi, M. L. (2019) A Focused Library of Psychotropic Analogues with Neuroprotective and Neuroregenerative Potential, *ACS Chem Neurosci*. 10(1):279-294.
- **Massenzio, F**., Pena-Altamira, E., Petralla, S., Virgili, M., Zuccheri, G., Miti, A., Polazzi, E., Mengoni, I., Piffaretti, D., and Monti, B. (2018) Microglial overexpression of fALS-linked mutant SOD1 induces SOD1 processing impairment, activation and neurotoxicity and is counteracted by the autophagy inducer trehalose, *Biochim Biophys Acta Mol Basis Dis 1864*, 3771-3785.
- White, M. A., Kim, E., Duffy, A., Adalbert, R., Phillips, B. U., Peters, O. M., Stephenson, J., Yang, S., **Massenzio, F.**, Lin, Z., Andrews, S., Segonds-Pichon, A., Metterville, J., Saksida, L. M., Mead, R., Ribchester, R. R., Barhomi, Y., Serre, T., Coleman, M. P., Fallon, J. R., Bussey, T. J., Brown, R. H., Jr., and Sreedharan, J. (2018) TDP-43 gains function due to perturbed autoregulation in a Tardbp knock-in mouse model of ALS-FTD, *Nat Neurosci 21*, 552-563.
- Pena-Altamira, L. E., Polazzi, E., Giuliani, P., Beraudi, A., **Massenzio, F.**, Mengoni, I., Poli, A., Zuccarini, M., Ciccarelli, R., Di Iorio, P., Virgili, M., Monti, B., and Caciagli, F. (2018) Release of soluble and vesicular purine nucleoside phosphorylase from rat astrocytes and microglia induced by pro-inflammatory stimulation with extracellular ATP via P2X7 receptors, *Neurochem Int 115*, 37-49.
- Profilo, E., Pena-Altamira, L. E., Corricelli, M., Castegna, A., Danese, A., Agrimi, G., Petralla, S., Giannuzzi, G., Porcelli, V., Sbano, L., Viscomi, C., **Massenzio, F.**, Palmieri, E. M., Giorgi, C., Fiermonte, G., Virgili, M., Palmieri, L., Zeviani, M., Pinton, P., Monti, B., Palmieri, F., and Lasorsa, F. M. (2017) Down-regulation of the mitochondrial aspartate-glutamate carrier isoform 1 AGC1 inhibits proliferation and N-acetylaspartate synthesis in Neuro2A cells, *Biochim Biophys Acta Mol Basis Dis 1863*, 1422-1435.
- Pena-Altamira, E., Petralla, S., **Massenzio, F.**, Virgili, M., Bolognesi, M. L., and Monti, B. (2017) Nutritional and Pharmacological Strategies to Regulate Microglial

Polarization in Cognitive Aging and Alzheimer's Disease, *Front Aging Neurosci 9*, 175.

- Pena-Altamira, E., Prati, F., **Massenzio, F.**, Virgili, M., Contestabile, A., Bolognesi, M. L., and Monti, B. (2016) Changing paradigm to target microglia in neurodegenerative diseases: from anti-inflammatory strategy to active immunomodulation, *Expert Opin Ther Targets 20*, 627-640.
- Prati, F., De Simone, A., Bisignano, P., Armirotti, A., Summa, M., Pizzirani, D., Scarpelli, R., Perez, D. I., Andrisano, V., Perez-Castillo, A., Monti, B., **Massenzio, F.**, Polito, L., Racchi, M., Favia, A. D., Bottegoni, G., Martinez, A., Bolognesi, M. L., and Cavalli, A. (2015) Multitarget drug discovery for Alzheimer's disease: triazinones as BACE-1 and GSK-3beta inhibitors, *Angew Chem Int Ed Engl 54*, 1578-1582.
- Prati, F., De Simone, A., Armirotti, A., Summa, M., Pizzirani, D., Scarpelli, R., Bertozzi, S. M., Perez, D. I., Andrisano, V., Perez-Castillo, A., Monti, B., **Massenzio, F.**, Polito, L., Racchi, M., Sabatino, P., Bottegoni, G., Martinez, A., Cavalli, A., and Bolognesi, M. L. (2015) 3,4-Dihydro-1,3,5-triazin-2(1H)-ones as the First Dual BACE-1/GSK-3beta Fragment Hits against Alzheimer's Disease, *ACS Chem Neurosci 6*, 1665-1682.
- Polazzi, E., Mengoni, I., Pena-Altamira, E., **Massenzio, F.**, Virgili, M., Petralla, S., and Monti, B. (2015) Neuronal Regulation of Neuroprotective Microglial Apolipoprotein E Secretion in Rat In Vitro Models of Brain Pathophysiology, *J Neuropathol Exp Neurol 74*, 818-834.

POSTERS

- Functional differences between glial cells overexpressing wild-type or mutant superoxide dismutase 1 (SOD1). **Francesca Massenzio**, Luis Emiliano Pena-Altamira, Marco Virgili, Monia Bentivogli, Barbara Monti.
  ABCD National Congress 2015. September 17-19 ,2015. Bologna, Italia.

- A nutritional approach to tackle Alzheimer's disease: a key role for immunomodulation. Luis Emiliano Pena Altamira, Sabrina Petralla, **Francesca Massenzio**, Cristina Parenti, Marco Virgili, Monia Bentivogli, Barbara Monti. XIII European Meeting on Glial Cells in Health and Disease, 8-11 July 2017, Edinburgh, Scotland.

- *Tardbp* knock-in mouse shows gain of TDP-43 function and yields modifiers of cognitive impairment. Matthew A. White, Eosu Kim, Amanda Duffy, Robert Adalbert, Benjamin U. Phillips, Owen M. Peters, Jodie Stephenson, Sujeong Yang, **Francesca Massenzio**, Ziqiang Lin, Simon Andrews, Anne Segonds-Pichon, Jake Metterville, Lisa M. Saksida, Richard Mead, Richard R Ribchester, Youssef Barhomi, Thomas Serre, Michael P. Coleman, Justin Fallon, Timothy J. Bussey, Robert H. Brown Jr, Jemeen Sreedharan.
  1st International Postdoc retreat in Vimeiro, Portugal 2017.

- Glycogen Synthase Kinase-3 Inhibition ameliorates TDP-43 toxicity in motor and cortical neurons. **Francesca Massenzio**, Matthew A White, Richard J Mead, Michael P Coleman, Sami Barmada, Jemeen Sreedharan.
  28th International Symposium on ALS/MND. 8-10 December 2017, Boston USA.

ABCD Member, The Italian scientific community of cell and developmental biologists since September 2015.

Manuscript in preparation

Francesca Massenzio, Matthew A White, Richard J Mead, Michael P Coleman, Sami Barmada, Jemeen Sreedharan. Activated GSK3 links TDP-43 toxicity and tau phosphorylation.

Contacts

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