
GIOVANNI

MELI

Group Leader

**Conformational studies on Amyloid β
Oligomers**

in Alzheimer's disease Laboratory

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After a master's degree in Molecular Biology and a residency in Biochemistry, Giovanni obtained his PhD in Structural and Functional Genomics at the International School for Advanced Studies (ISAS-SISSA) in Trieste, where he started his work on recombinant antibodies.

He then moved to Rome and joined the newly established EBRI, in the laboratory of Neurotrophic Factors and Neurodegenerative Disease led by Antonino Cattaneo, where he studied mainly Amyloid Beta oligomers and intrabody targeting in mammalian living cells.

His group at EBRI focuses on conformational studies on Amyloid Beta oligomers in vitro, in human cells and tissues exploiting unique nanobodies.

Education and Professional Experience

- 1998 Master Degree in Molecular Biology, University of Catania
- 2002 Residency in Biochemistry, Medical School, University of Catania
- 2007 PhD in Structural and Functional Genomics, ISAS-SISSA Trieste

- 2007-2010 Postdoctoral fellow EBRI (Rome) and Scuola Normale Superiore (Pisa)
- 2010 Junior Project Leader, EBRI (Rome)
- 2012 Junior Group Leader, EBRI (Rome)
- 2019 Group Leader, EBRI (Rome)

Selected publications (2008-2019)

2019

Scopa C, Marrocco F, Latina V, Ruggeri F, Corvaglia V, La Regina F, Ammassari-Teule M, Middei S, Amadoro G, **Meli G***, Scardigli R*, Cattaneo A* (2019) Impaired adult neurogenesis is an early event in Alzheimer's disease neurodegeneration, mediated by intracellular A β oligomers. *Cell Death Differ.* doi:10.1038/s41418-019-0409-3 (*corresponding authors, equal contributors)

[Pignataro A](#), [Meli G*](#), [Pagano R](#), [Fontebasso V](#), [Battistella R](#), [Conforto G](#), [Ammassari-Teule M](#), [Middei S*](#). (2019) Activity-induced A β oligomers drive compensatory synaptic rearrangements in brain circuits controlling memory of pre-symptomatic AD mice. *Biological Psychiatry* DOI: <https://doi.org/10.1016/j.biopsych.2018.10.018> (*corresponding authors)

2018

Rizzi C, Tiberi A, Giustizieri M, Marrone MC, Gobbo F, Carucci NM, **Meli G**, Arisi I, D'Onofrio M, Marinelli S, Capsoni S, Cattaneo A. (2018) NGF steers microglia toward a neuroprotective phenotype. *Glia* 66(7):1395-1416. doi: 10.1002/glia.23312

2017

Capsoni S, Malerba F, Carucci NM, Rizzi C, Criscuolo C, Origlia N, Calvello M, Viegi A, **Meli G**, Cattaneo A. (2017) The chemokine CXCL12 mediates the anti-amyloidogenic action of painless human nerve growth factor. *Brain*. Jan;140(Pt 1):201-217. doi: 10.1093/brain/aww271

2015

Corsetti V, Florenzano F, Atlante A, Bobba A, Ciotti MT, Natale F, Della Valle F, Borreca A, Manca A, **Meli G**, et al. (2015) NH2-truncated human tau induces deregulated mitophagy in neurons by aberrant recruitment of Parkin and UCHL-1: implications in Alzheimer's disease. *Hum Mol Genet.*; 24(11):3058-81

2014

Meli G., Lecci A., Manca A., Krako N., Albertini V., Benussi L., Ghidoni R., Cattaneo A. (2014) Conformational targeting of intracellular A β oligomers demonstrates their pathological

oligomerization inside the Endoplasmic Reticulum. *Nature Communications* 5:3867. doi: 10.1038/ncomms4867

2013

Meli G., Krako N., Manca A., Lecci A., Cattaneo A. (2013) Intrabodies for protein interference in Alzheimer's Disease (Review) *J. of Biological Regulators & Homeostatic Agents*; **27**, 2(S), 89-105

Krako N., Magnifico M.C., Arese M., **Meli G.**, Forte E., Lecci A., Manca A., Giuffre A., Mastronicola D., Sarti P. and Cattaneo A. (2013) Characterization of Mitochondrial Dysfunction in the 7PA2 Cell Model of Alzheimer's Disease. *J. of Alzheimer's Disease*, **37**, 747-758

Tiveron C, Fasulo L, Capsoni S, Malerba F, Marinelli S, Paoletti F, Piccinin S, Scardigli R, Amato G, Brandi R, Capelli P, D'Aguanno S, Florenzano F, La Regina F, Lecci A, Manca A, **Meli G**, Pistillo L, Beretta N, Nistico R, Pavone F, Cattaneo A. (2013) ProNGF\NGF imbalance triggers learning and memory deficits, neurodegeneration and spontaneous epileptic-like discharges in transgenic mice. *Cell Death Differ* **20**, 1017-1030.

2012

Capsoni S, Marinelli S, Ceci M, Vignone D, Amato G, Malerba F, Paoletti F, **Meli G**, Viegi A, Pavone F, Cattaneo A. (2012) Intranasal "painless" human Nerve Growth Factors slows amyloid neurodegeneration and prevents memory deficits in App X PS1 mice *PLoS One* **7**, e37555

Cattaneo A. & **Meli G.** (2012) Protein silencing with intracellular antibodies: targeting with Alzheimer's Disease protein. *European J. of Neurodegenerative Diseases* 1(2), 149-163

2010

Amadoro G, Corsetti V, Stringaro A, Colone M, D'Aguanno S, **Meli G**, Ciotti M, Sancesario G, Cattaneo A, Bussani R, Mercanti D, Calissano P. (2010) A NH2 tau fragment targets neuronal mitochondria at AD synapses: possible implications for neurodegeneration *J. of Alzheimer's Disease*, 21(2),445-470

2009

Meli G, Visintin M, Cannistraci I, Cattaneo, A. (2009) Direct in vivo intracellular selection of conformation sensitive antibody domains targeting Alzheimer's Amyloid- β Oligomers *J. of Molecular Biology*, 387(3),584-606

2008

Matrone C, Di Luzio A, **Meli G**, D'Aguanno S, Severini C, Ciotti MT, Cattaneo A, Calissano P. (2008) Activation of the amyloidogenic route by NGF deprivation induces apoptotic death in PC12 cells. *J. of Alzheimer's Disease*, 13(1),81-96