Clara Porcedda

PhD in Molecular and Translational Medicine

Education

2025 **PhD in Molecular and Translational Medicine**, University of Cagliari.
Thesis: *Conjugated linoleic acid isomers anti-neuroinflammatory effects on activated microglial cells".*

2018 **Master of Science in Neurobiology**, University of Cagliari.
First class honours 110 lode**,** thesis: *Chronic consumption of Bifidobacter (Longum, Breve, Infantis) alters neuronal plasticity and GABA-ergic transmission in adult rat hyppocampus.*

2016 **Bachelor of Science in Biology**, University of Cagliari.
Thesis: *Dendritic spine density in neurons of dentate gyrus after treatment with Liposom.*

Research Experience

Oct 21-Feb 25 **Ph.D. in Molecular and Translational Medicine**, Department of Biomedical Sciences, University of Cagliari.
As PhD student I worked in the laboratory of neurobiology and cell culture. During this period, I studied glia's role in neuroprotection and neurodegeneration mechanisms. My project dealt with the anti-neuroinflammatory effect of fatty acid CLA, demonstrating through molecular and cellular investigations its capability to decrease inflammatory markers, such as cytokines and chemokines, and modulate fatty acid metabolism. Beside the main project, I studied the neurotoxic impact of TDP-43 on glial cells as astrocytes and microglia by evaluating cell viability, ROS production and mitochondrial functionality. I was also involved in projects like the study of the immunophenotype of PBMC collected from Parkinsonian patients. Moreover, I collaborate to test the cytotoxic and antioxydant effect of several natural extracts.
Supervisor: Prof Valeria Sogos.

Feb 23-July 23 **Visiting Ph.D student,** Laboratory of Stem Cells and Restorative Neurology. Lund Stem Cell Centre, Sweden.
As visiting Ph.D. student, I studied different applications of hIPSC used to generate neural stem cells and glial cell types.

Jan 20-Sept 21 **Post-graduate scholarship,** Department of Biomedical Sciences, University of Cagliari.
In this period, I mainly investigated the anti-inflammatory effect of different isomers of polyunsaturated fatty acid in microglia cells. I have also evaluated some novel psychoactive substances (NPS) neurotoxicity on neuroblastoma cells.
Supervisor: Prof Valeria Sogos.

Mar 17-Sept 18 **Degree internship,** Department of Life and Environmental Sciences, University of Cagliari.
During this internship, I studied the expression of $GABA_a$ receptor subunits in rat hyppocampus and how they were modified by the administration of probiotics, correlating the link between brain and gut.
Supervisor: Doctor Cristina Mostallino.

May 16- Jul 16 **Degree internship,** Department of Life and Environmental Sciences, University of Cagliari.
During this internship, I learnt how to examine the dendritic spine density in different brain areas, studying the impact of phospholipidic compounds on neuroplasticity.
Supervisor: Prof Enrico Sanna.

Technical Skills

- iPCS cultivation and applications
- Cell culture techniques
- Isolation and maintenance of PBMC
- Western Blot
- Immunocytochemistry
- ELISA
- qPCR

Teaching Experience

Mar 25-Present
Mar 23-Sept 24
Mar 21-Sept 22 **Tutor of histology** for the undergraduate students of faculty of Medicine at University of Cagliari

Nov 24-Feb 25 **Tutor of anatomy** for the undergraduate students of the faculty of Biology at the University of Cagliari.

Conferences activities

Posters

Sept 2024 **The 77 th National Congress of the Italian Society of Anatomy and Histology**,
"Effect of extracellular TDP-43 on glial cells".
Porcedda C, Piras F, Chiti F, De Simone A, Carta AR, Sogos V.

Dec 2022 **International Congress "More than neurons", Turin.**
"Anti-inflammatory effect of Conjugated Linoleic Acid (CLA) isomers on activated microglia".
Porcedda C, Piras F, Murru E, Manca C, Carta G, Setzu Maria Dolores, Banni S, Sogos V.

Sept 2022 **The 74th National Congress of the Italian Society of Anatomy and Histology**,
"Conjugated Linoleic Acid isomers reduce inflammatory response in murine microglia cells".
Porcedda C, Piras F, Manca C, Murru E, Carta G, Banni S, Sogos V.

Sept 2017 **Retreat of National Council Research (CNR) Institute of Neuroscience**
"Liposomes treatment antagonized dendritic spine loss and reduction of neurogenesis hyppocampus of chronically stressed rats".
Porcedda C, Mostallino M.C, Biggio F, Boi L, Locci V, Mostallino R, Toffano G, Biggio G.

Publications

Porcedda C, Manca C, Carta G, Piras F. Banni S. Sogos V. Murru E.
"Anti-neuroinflammatory effects of conjugated linoleic acid isomers, c9,t11 and t10,c12, on activated BV-2 microglial cells".
Front. Cell. Neurosci., 27 September 2024. https://www.frontiersin.org/journals/cellular Neu roscience/articles/10.3389/fncel.2024.1442786/full

Vega-Benedetti A.F & Porcedda C, Ercoli T, Fusco G, Burgaletto C, Pillai R , Palmas F, Cantone A, Angius F, Solla P, De Simone A , Cantarella G, Giallongo C , Sogos V, Defazio G , Carta AR
"Immune responses to oligomeric α-synuclein in Parkinson's disease peripheral blood

mononuclear cells".
J Neurol.2024 Sep;271(9):5916-5929. https://link.springer.com/article/10.1007/s00415-02412554-3.

Pintus F, Floris S, Fais A, Era B, **Porcedda C**, Tuberoso CIG, Caddeo C.
"Euphorbia characias Extract: Inhibition of Skin Aging-Related Enzymes and Nanoformulation".
Plants (Basel). 2022 Jul 14;11(14):1849. https://pubmed.ncbi.nlm.nih.gov/35890482/

Asensio-Regalado C, Alonso-Salces RM, Gallo B, Berrueta LA, **Porcedda C**, Pintus F, Vassallo
A, Caddeo C.
"A Liposomal Formulation to Exploit the Bioactive Potential of an Extract from Graciano Grape Pomace".
Antioxidants (Basel). 2022 Jun 27;11(7):1270. https://pubmed.ncbi.nlm.nih.gov/35883762/

Sogos V, Caria P, **Porcedda C**, Mostallino R, Piras F, Miliano C, De luca M.A, Castelli M.P
"Human neuronal cell lines as in vitro toxicological tool for the evaluation of novel psychoactive substances".
International journal of molecolar science, 2021. https://pubmed.ncbi.nlm.nih.gov/35890482/

Era B, Floris S, Sogos V, **Porcedda C**, Piras A, Medda R, Fais A, Pintus F.
"Anti-aging potential of extracts from Washingtonia filifera seeds".
Plants (Basel). 2021 Jan 14;10(1):151. https://www.mdpi.com/2223-7747/10/1/151

G.Talani, F.Biggio, M.C.Mostallino, V.Locci, **C.Porcedda**, L.Boi, E.Saolini, R.Piras, E.Sanna, G.Biggio.
"Treatment with gut bifidobacteria improves hippocampal plasticity and cognitive behavior in adult healthy rats".
Neuropharmacology, 2019. https://pubmed.ncbi.nlm.nih.gov/31857091/

Cagliari,05/05/25