ILARIA BERTANI

Senior Research Technician . Laboratory Manager

KEY SKILLS AND COMPETENCIES

Excellent research skills (Area of expertise: Neurobiology, Neurodegeneration and Pharmacological Research)
Excellent animal handling skills
Ability to prioritise own work in response to deadlines.
Documented and interpreted results of experiments and reported to principal investigators
Ability to plan and organize work with flexibility to shift priorities as needed
Possessing a creative approach to problem-solving
Created and modified standard operating procedures for laboratory
Trained new lab members in animal care and maintenance
Mentoring
Laboratory management (including lab inventory maintenance and purchasing of reagents and equipments)
Teamwork

PROFESSIONAL EXPERIENCES

Sept 2020-present	Senior Research Technician Nereo Kalebic's Group, Fondazione Human Technopole
2009-2020	Senior Research Technician and Lab Manager Laboratory of Prion Neurobiology, Department of Neuroscience IRCCS Mario Negri Institute for Pharmacological Research, Milan.
2004-2008	Research Technician at the Laboratory of Molecular Biology under the supervision of Prof.ssa Nicoletta Landsberger and Prof.ssa Charlotte KilstrupNielsen. Teaching activity in the course "Molecular biology laboratory"
2002-2004	Research Technician in the Telethon gene therapy laboratory (TIGET) at the San Raffaele Institute (Mi), under the supervision of Dr.ssa Alessandra Biffi.
1998-2002	Fellowship at the "Mario Negri" Institute of Pharmacological Research in the Laboratory of Biology of Neurodegenerative Diseases under the supervision of Dr. Gianluigi Forloni.

EDUCATION

2001	Biochemical Research Technician Specialista at IRCCS Mario Negri Institute for Pharmacological Research, Milan.
1996	High school diploma, Chemical-Biological Laboratory Technician I.T.C.S. “G. Torno”, Castano Primo, Italy

TECHNICAL SKILLS

Cell Biology: isolation and culture of embryonic and post-natal primary neuronal cells (rat and mouse); isolation of murine primary fibroblasts (MEF); purification of murine hematopoietic stem cells (bone marrow); maintenance of culture cell lines. Evaluation of the protective activity and cytotoxicity in primary cultures and cell lines; transfection of cell lines.
Preparation of lentiviral supernatants and trasduction of cell lines, primary cultures and hematopoietic stem cells.

Biochemistry: immunoblotting; protein expression and immunopurification from bacteria and eukaryotic cells; analysis of proteins insolubility in non-denaturing detergents and semidenaturing agarose gel electrophoresis (SDD-AGE); radioactive and "cold" *in vitro* translations; phosphorylation assays; notions of 2D gel

Animal handling: breeding and maintenance of murine transgenic colonies; genotyping; animal procedures (intraperitoneal, subcutaneous, intravenous treatment in animal models - mouse, rat and hamster); irradiation and transplantation of hematopoietic progenitors.

"Ex vivo": Dissection of brain areas and other tissues; intracardiac perfusion in rat and mouse; manipulation of human brain tissue and human peripheral blood samples.

Histology and Immunohistochemistry: microtome and cryostat cutting; paraffin inclusion; frozen and paraffin sectioning; histological staining (H&E, Nissl, Luxol Fast Blue); immunohistochemistry and immunofluorescence on fresh, frozen and paraffin samples.
Confocal microscopy, epifluorescence and bright field.
Image post-processing (deconvolution, 3D reconstructions, rendering) and image analysis (ImageJ/ Fiji and Imaris)

Molecular Biology: cloning; DNA and RNA extraction; genotyping PCR; quantitative PCR (qPCR); Real Time PCR (RT-PCR); *in vitro* transcription.

Enabled for the use of radioactive
Enabled for the use and manipulation of laboratory animals (mouse, rat and hamster)

PEER-REVIEWED PUBBLICATION

https://www.scopus.com/authid/detail.uri?authorId=36937317000
h-Index: 11

Forloni G., **Bertani I.**, Calella A.M., Talher F.and Invernizzi R.,
Alpha-Synuclein and Parkinson's disease: selective neurodegeneration effect of Alpha-Synuclein fragment on dopaminergic neurons "in vitro" and "in vivo".
Ann Neurol 2000; 47: 632-640

Bertoli A., **Bertani I.**, Invernizzi R. and Forloni G.
Alpha.Synuclein and dopaminergic degeneration in Parkinson's disease.
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Forloni G., Iussich S., Awan T., Colombo L., Angeretti N., Girola L., **Bertani I**., Poli G., Caramelli M., Bruzzone M.G., Farina L., Limido L., Rossi G., Giaccone G., Ironside JW., Bugiani O., Salmona M., and Tagliavini F.
Tetracyclines affect prion infectivity
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Forloni G., Terreni L., **Bertani I**., Fogliarino S., Invernizzi I., Assini A., Ribizzi G., Negro A., Calabrese E., Mariani C., Franceschi M., Tabaton M., Bertoli A.
Protein misfolding in Alzheimer's and Parkinson's disease: genetic and molecular mechanisms.
Neurobiol Aging. 2002 Sep-Oct;23(5):957.

Mari F, Azimonti S, **Bertani I**, Bolognese F, Colombo E, Caselli R, Scala E, Longo I, Grosso S, Pescucci C, Ariani F, Hayek G, Balestri P, Bergo A, Badaracco G, Zappella M, Broccoli V, Renieri A, Kilstrup-Nielsen C, Landsberger N.
CDKL5 Belongs to the Same Molecular Pathway of MeCP2 and it is Responsible for the Early Seizure Variant of Rett Syndrome
Hum Mol Genet. 2005 Jul 15;14(14):1935-46.

Bertani I, Rusconi L, Bolognese F, Forlani G, Conca B, De Monte L, Badaracco G, Landsberger N, Kilstrup-Nielsen C.
Functional consequences of mutations in CDKL5, an X-linked gene involved in infantile spasms and mental retardation.
J Biol Chem. 2006 Oct 20; 281 (42): 32048-32056

Rusconi L., Salvatoni L., Giudici L., **Bertani I**., Kilstrup-Nielen C., Broccolo V., Landsberger N.
CDKL5 expression is modulated during neuronal development and its sub-cellular distribution is tightly regulated by the C-terminal tail.
J Biol Chem. 2008 Aug 13.

Senatore A., Colleoni S, Verderio C, Restelli E, Morini R, Condliffe S., **Bertani I**., Mantovani S., Canovi M. Micotti E, Forloni G., Dolphin A.C., Matteoli M.,Gobbi M., Chiesa R.
Mutant Prion Protein Suppresses Glutamatergic Neurotransmission in Cerebellar Granule Neurons by Impairing Membrane Delivery of Voltage-gated Calcium Channel alpha2delta1 Subunit
Neuron,2012 Apr 26;74(2):300-13

Bouybayoune I., Mantovani S., Del Gallo F., **Bertani I.**, Restelli E., Tapella L., Comerio L., Baracchi F., Fernández-Borges N., Mangieri M., Bisighini C., Beznoussenko G.V., Paladini A., Balducci C., Micotti E., Forloni G., Castilla J., Fiordaliso F., Tagliavini F., Imeri L., Chiesa R.
Transgenic Fatal Familial Insomnia Mice Indicate Prion-Independent Mechanisms of Pathogenesis and Phenotypic Expression of Disease.
PLoS Pathog. 2015 Apr; 11(4)

Bertani I., Iori V., Trusel M., Maroso M., Foray C., Tonini R., Vezzani A., and Chiesa R.
IL-1beta signaling normalizes NMDA-dependent neurotransmission and reduces seizure susceptibility in a mouse model of Creutzfeldt-Jakob disease
J Neurosci. 2017 Oct 25;37(43):10278-10289

Buccarello L., Sclip A., Castaldo AM, **Bertani I.** Sacchi M., ReCecconi A., Maestroni S., Zerbini G., Nucci P. and Borsello T.
The c-Jun N-Terminal Kinase plays a key role in ocular degenerative changes in a mouse model of Alzheimer disease
Oncotarget. 2017 Aug 3;8(47):83038-83051.

Zanier E., **Bertani I**., Sammali E., Pischiutta F., Chiaravalloti AM., Vegliante G., Smith D., Menon D., Stocchetti N, De Simoni MG, Stewart W, Chiesa R.
Single severe traumatic brain injury results in tau pathology displaying prion-like properties in propagation and transmission
Brain. 2018 Sep1;141(9):2685-2699.

Bouybayoune I., Comerio L., Pasetto L., **Bertani I**., Bonetto V., Chiesa R.
Cyclophillin A deficiency accelerates RML-induced prion disease
Neurobiol. Dis. 2019 Oct, 130: 104498.

Ghirardini E., Restelli E., Morini R., **Bertani I.**, Ortolan D., Perrucci F., Pozzi D., Matteoli M. Chiesa R.
Mutant prion proteins impair GluA2 trafficking, resulting in membrane exposure of calcium permeable AMPA receptors and increased vulnerability to excitotoxicity
PLoS Pathogens, 2020, 16(7), e1008654

Del Gallo F., Bianchi S., **Bertani I**., Messa M., Colombo L., Balducci C., Salmona M., Imeri L., Chiesa R.
Sleep inhibition induced by beta-amyloid oligomers is mediated by the cellular prion protein
J Sleep Res. 2020 Sep 9; e13187

Zanier E.R., Barzago M., Vegliante G., Romeo M., Restelli E., **Bertani I**., Natale C., Colnaghi L., Colombo L., Russo L., Micotti E., Fiorti L., Chiesa R., Diomede L.
C. elegans detects toxicity of traumatic brain injury generated tau
Neurobiol Dis. 2021 Jun 153:105330

ACKNOWLEDGMENTS FOR TECHNICAL SUPPORT

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J Clin Invest. 2004;113(8) 1118–1129

Buccarello L, Grignaschi G, Di Giancamillo A, Domeneghini C, Melcangi RC, Borsello T.
Neuroprotective effects of low fat-protein diet in the P301L mouse model of tauopathy
Neuroscience. 2017 Jun 23; 354:208-220

Buccarello L, Grignaschi G, Castaldo A, Di Giancamillo A, Domeneghini C, Melcangi RC, Borsello
T.
Impact on Tau-Aggregation and Postsynaptic Protein Levels in the P301L Mouse Model of Tauopathy
J Alzheimers Dis. 2017; 56(4):1279-1292

CONGRESSES AND UPDATES

Principio delle 3RS e neuroscienze
23-24 October 2018
Milan

6th EMCCS-FENS Meeting
Milan, 3-4 July 2014

Glia-derived brain inflammation and enhanced susceptibility to kainate seizures in a transgenic mouse model of genetic Creutzfeldt-Jakob disease
Bertani I, Maroso M., Iori V., Vezzani A., Chiesa R.
PRION 2014
Trieste, 27-30 May 2014

Intrinsic Brain Inflammation and Enhanced Susceptibility to Kinate-Induced Seizure in a Transgenic Mouse Model of Inherited Creutzfeld-Jacob Disease
Bertani I, Meroso M, Mntovani S, Iori V, Vezzani A, Chiesa R
VIII Scientific Retreat Dulbecco Telethon Insititute
27 May- 03 June 2012

Intrinsic Brain Inflammation and Enhanced Susceptibility to Kinate-Induced Seizure in a Transgenic Mouse Model of Inherited Creutzfeld-Jacob Disease
Bertani I, Meroso M, Mntovani S, Iori V, Vezzani A, Chiesa R
5th Meeting on the Molecular Mechanisms of Neurodegeneration
Milan, 13-15 May 2011

Enhanced Susceptibility to Kainate-Induced Seizures in a Transgenic Mouse Model of Inherited Creutzfeldt-Jakob Disease
Bertani I, Meroso M, Mntovani S, Iori V, Vezzani A, Chiesa R
PRION 2010
Salisburg, 8-11 September 2010

1° EUROPEAN WORKING GROUP ON RETT SYNDROME
Insubria University, Busto Arsizio (VA), 19-20 Aprile 2007

Alpha-synuclein and Parkinson's disease: a study using sinthetic peptides.
A.Bertoli, I. Bertani, R. Invernizzi and G. Forloni
CONGRESSO AINP AIRIC
Napoli, 29 May-1 June 2002