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Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Ivana Manini**
Address(es)	
Telephone(s)	
E-mail	
Nationality	
Date of birth	
Gender	

Since September 2022: Holder of a Fellowship at the Department of Anatomy Pathology-Neurosurgery,at the Azienda Ospedaliera Universitaria of Udine (ASUFC) within the Project GLIOMI-FVG. She is involved in a study named: "*Ricerca e sviluppo preclinico di strategie terapeutiche innovative e predittive per l'ottimizzazione del trattamento dei tumori cerebrali*"

August 2019-August 2022: Holder of a Fellowship at the Department of Anatomy Pathology, ASUIUD within the Ministero della Salute- Giovani Ricercatori project. She is involved in a study named "Study of the efficacy of GLIADEL treatment in glioblastoma patients"

February 2018-July 2019: Holder of a **F**ellowship at the Department of Anatomy Pathology, ASUIUD within the TRANSGLIOMA INTERREG Italia-Slovenia project. She was involved in a study named "Identification of new therapies for glioma, using human and murine tissues"

Work experience

May 2013-February 2018: Post-doctoral fellow at the Department of Anatomy Pathology, Udine. She was involved in a project aimed at finding drug targets on Glioma associated Stem Cells (GASC) and in developing an in vivo mouse model to investigate the role of GASC in the glioblastoma development.

October 2011—April 2013: holder of a mobility fellowship within the Fellowship Programme "*Talents for an International House (TALENTS)"* cofunded by the "Consorzio per l'AREA di ricerca scientifica e tecnologica di Trieste" through the Coordination Network of Research Institutions of Friuli Venezia Giulia (CER - Coordinamento degli Enti di Ricerca Regionali) and by the European Commission within the Seventh Framework Programme - "People" Specific Programme - COFUND Action. She worked at the Oncomatrix Research Laboratory, at the Biomedicine Department of the University of Bergen (Norway), under the supervision of the Prof. Per Øyvind Enger.

She contributed to a project in which the Glioblastoma biology and its microenvironment is investigating. The goal of the project was to study of the mutual influence between glial cells and glioma cells regarding structural and functional changes, elucidating the mechanisms involved in the interplay between the two cell types, with particular attention to the role of hypoxia. The final aim of the project was to understand how to overcome chemoresistance of GBM cells and to explore whether promoting alternative death pathways could be of impact for anti-glioma therapy.

July 2010-September 2011: Post doctoral fellowship at the Department of Sciences Medical and Biological (DSMB) of the Faculty of Medicine and Surgery, University of Udine, Italy, directed by Prof. Claudio Brancolini.

She was involved in a project in which was analyzed drugs-induced apoptosis in human glioblastoma cell lines.

2008-2010: post-doctoral fellowship at the Centre for Stem Cells Research directed by Prof. Vincenzo Sorrentino, Department of Neurosciences (Molecular Medicine Section) of the Faculty of Medicine and Surgery, University of Siena, Italy.
She was involved in a project in which were studied the properties of mesenchymal cell populations isolated from adult tissues. Particularly, the heterogeneity of adult MSCs was analyzed, with respect to their differentiation potential. MSCs population were isolated from adult mesodermal tissues (bone marrow, adipose tissue and derma) and extensive clonal analysis was performed.

2004-2007: PhD Student at the School in "Cell Biology and Physiopathology", at the Department of Neurosciences (Molecular Medicine Section) of the Faculty of Medicine and Surgery, University of Siena, Italy. She was employed in the isolation, expansion and characterization of mesenchymal cells (Ad-MSCs) from stromal vascular fraction of human adult adipose tissue, with special attention to their proliferation ability and differentiation properties into mesenchymal lineages (adipocyte, osteocytes, chondrocytes, miocytes and cardiomiocytes). Histological (cytochemical staining) and immunohistological (immunofluorescence and flow cytometry) assays and molecular analysis (RT-PCR) were performed.
During PhD studies she collaborated at a project in which cancer stem cells were isolated from human glioblastomas and their specific culture conditions were established

2002-2004: Student at the Department of Neurosciences (Molecular Medicine Section), of the Medicine and Surgery Faculty, University of Siena, Italy, in the laboratory directed by Prof. Vincenzo Sorrentino. She was employed in a project to estimate the levels of expression of RyR1 and RyR3 in leg and diaphragm muscles from mice at different developmental age. To this aim, ^{3}[H]ryanodine binding assays and immunoprecipitation techniques with anti-RyR3 specific antibodies were used on CHAPS solubilised vesicles. In addition, the [^{3}H]ryanodine binding activity of RyR1 and RyR3 were determined in native sarcoplasmic reticulum vesicles.

Education and training

November 2022: Student at Scuola di Specializzazione in Genetica Medica per non medici (University of Trieste/Udine).
September 2022: II Level Master in Procreazione medicalmente assistita e Scienze della Riproduzione Umana (Dipartimento di Salute della Donna e del Bambino, University of Padova.

February 2008: PhD in "Cell biology and Physiopathology" (University of Siena). **Title of the thesis:** "Isolation, expansion and characterization of mesenchymal precursors cells from human adult adipose tissue".

July 2004: Degree in Biology (University of Siena), with top marks 110/110 and honours. **Title of the thesis:** "Expression analysis of type 3 ryanodine receptor (RyR3) during skeletal muscle development".

July 1997: Classic High School diploma (Liceo Classico Dante Alighieri, Orbetello (GR)) with top marks 60/60 and honours.

Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **English**

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
Language	En	B2		C1		B2		B2		B2
Language										

(*) Common European Framework of Reference for Languages

Technical skills and competences

Use of enzymatic digestion methods to isolate human mesenchymal stem cells from bone marrow, adipose tissue, derma, human and mouse brain tumors, normal mouse brain. Methods to induce, *in vitro*, mesenchymal stem cells differentiation into lineages of mesenchymal origin (adipogenic, osteogenic, chondrogenic), cardiac lineage, skeletal muscle and neural lineage. Cell cloning: Colony Forming Unit assay (CFU-f) and limiting dilution assay.

Flow cytometry analysis, using FACS Calibur (BD) and BD-Fortessa, to evaluate cell surface protein expression.

Sorting of cell populations by immunomagnetic separation technology (MACS).

Histology, Immunohystochemistry and Cytochemistry**:** fixation, paraffin embedded tissue and frozen tissue, Cryosectioning; histochemical staining, cytochemical staining: Oil Red O, Alizarin Red, Von Kossa staining, Alcian Blue.

Fluorescent and Confocal microscopes handling.

Transfection techniques by retroviral and lentiviral vectors.

During preparation of her thesis, she acquired competences to harvest brain and different types of hindlimb skeletal muscle and diaphragm from mice at different developmental age; mouse sarcoplasmic reticulum vesicles *preparation; [^{3}H]ryanodine* binding assays and immunoprecipitation techniques; longitudinal and transverse skeletal muscle sections; immunofluorescence assays; immunohistochemistry; electrophoresis on SDS-polyacrylamide gels; Western Blotting;

Molecular Biology techniques: assays to express and cloning genes in E. coli. Gene expression analysis: RT-PCR (Reverse-Transcriptase Polymerase Chain Reaction) and Real-Time PCR, silencing of genes using lipofectamine methods (RNA-i).

Theoretic and practical Training Course in Laboratory Animal Science (FELASA C).

Surgical manipulation of mice and rats: intracranial implantation of human tumor spheroids to induce development of glioblastoma.

Isolation, characterization and manipulation of microvesicles (exosomes).

Computer skills and competences

Good knowledge of Windows, of all Office programs, Origin Pro 7.0, Prism/GraphPad and Photoshop.

Artistic skills and competences	like any kind of sport, swimming and spinning' philosophy, in particular. I started the training to become a spinning instructor. I love nature and pets (dogs and cats). My family have a farm and I can enjoy nature. I love the sea and I am a member of the WWF, and I go often to visit the Italian oasis. I love music and, in my spare time, I like reading (literature, philosophy, thriller, romance).
Additional information	Contact for references: Prof. Per Øyvind Enger : per.enger@biomed.uib.no Prof. Vincenzo Sorrentino: v.sorrentino@unisi.it Dott.ssa Daniela Rossi : rossidan@unisi.it Dott .Emanuele Giurisato: giurisato2@unisi.it Prof. Claudio Brancolini: claudio.brancolini@uniud.it

Annexes

PUBBLICATIONS: Rossi D, Murayama T, **Manini I**, Franci D, Ogawa Y, Sorrentino V: Expression and functional activity of ryanodine receptors (RyRs) during skeletal muscle development. *Cell Calcium 2007; 41: 573:580.*

Senesi, S, Marcolongo, P, **Manini, I**, Fulceri, R, Sorrentino, V, Csala, M, Bànhegyi, Benedetti, A: Constant expression of hexose-6-phosphate dehydrogenase during differentiation of human adipose-derived mesenchymal stem cells. *J. Mol. Endocrinol. 27 Jun, 2008.*

Pierantozzi, E., Gava, B., **Manini, I**., Roviello, F., Marotta, G., Chiavarelli, M. and Sorrentino, V. Pluripotency regulators in human mesenchymal stem cells*:* expression of NANOG but not OCT-4 and SOX-2. Stem cells Dev. *29, Oct, 2010*

Manini, I*., Gulino, L*., Gava, B., Pierantozzi, E., Curina, C., D'Aniello, C. and Sorrentino, V. Multipotent progenitors of MSCs isolated are conserved in long-term cultures of MSCs from human adult adipose tissue. Multipotent progenitors in freshly isolated and cultured human mesenchymal stem cells: a comparison between adipose and dermal tissue. Cell tissue Res, 2011.

Sgorbissa, A., Tomasella, A., Potu, H., **Manini , I** and Brancolini, C. Type I IFNs signaling and apoptosis resistance in glioblastoma cells. Apoptosis, 2011. 16 (12):1229-44.

Gambelli, G., Sasdelli, F., **Manini, I**., Gambarana, C., Oliveri, G., Miracco, C. and Sorrentino, V. Cancer stem cells from human glioblastoma show different phenotypes and express variable levels of CD133/Prominin-1. Cell.Biol.Int, 2012. 36 (1): 29-38.

Manini I, Sgorbissa A, Potu H, Tomasella A, Brancolini C.The DeISGylase USP18 limits TRAIL-induced apoptosis through the regulation of TRAIL levels: Cellular levels of TRAIL influences responsiveness to TRAIL-induced apoptosis. Cancer Biol Ther. 2013. 14(12): 1158-1166.

Domenis R, Lazzaro L, Calabrese S, Mangoni D, Gallelli A, Bourkoula E, **Manini I**, Bergamin N, Toffoletto B, Beltrami CA, Beltrami AP, Cesselli D, Parodi PC. Adipose tissue derived stem cells: in vitro and in vivo analysis of a standard and three commercially available cell-assisted lipotransfer techniques.Stem Cell Res Ther. 2015 Jan 5;6:2

Gianfranceschi G, Caragnano A, Piazza S, **Manini I**, Ciani Y, Verardo R, Toffoletto B, Finato N, Livi U, Beltrami CA, Scoles G, Sinagra G, Aleksova A, Cesselli D, Beltrami AP. Critical role of lysosomes in the dysfunction of human Cardiac Stem Cells obtained from failing hearts. Int J Cardiol. 2016 Apr 26;216:140-150.

Caponnetto F, **Manini I**, Skrap M, Palmai-Pallag T, Di Loreto C, Beltrami AP, Cesselli D, Ferrari E. Size-dependent cellular uptake of exosomes. Nanomedicine. 2016 Dec 18;13(3).

Domenis R, Cesselli D, Toffoletto B, Bourkoula E, Caponnetto F, **Manini I**, Beltrami AP, Ius T, Skrap M, Di Loreto C, Gri G. Systemic T Cells Immunosuppression of Glioma Stem Cell-Derived Exosomes Is Mediated by Monocytic Myeloid-Derived Suppressor Cells. PLoS One. 2017 Jan 20;12(1)

Ius T, Ciani Y, Ruaro ME, Isola M, Sorrentino M, Bulfoni M, Candotti V, Correcig C, Bourkoula E, **Manini I**, Pegolo E, Mangoni D, Marzinotto S, Radovic S, Toffoletto B, Caponnetto F, Zanello A, Mariuzzi L, Di Loreto C, Beltrami AP, Piazza S, Skrap M, Cesselli D. A NF-κB signature predicts low-grade glioma prognosis: a precision medicine approach based on patient-derived stem cells. Neuro Oncol. 2017 Dec 7.

Manini I, Caponnetto F, Bartolini A, Ius T, Mariuzzi L, Di Loreto C, Beltrami AP, Cesselli D. Role of Microenvironment in Glioma Invasion: What We Learned from In Vitro Models. Int J Mol Sci. 2018 Jan 4;19(1).

Manini I, Ruaro ME, Sgarra R, Bartolini A, Caponnetto F, Ius T, Skrap M, Di Loreto C, Beltrami AP, Manfioletti G, Cesselli D. Semaphorin 7A on exosomes: a pro-migratory signal in the glioma microenvironment. Cancer (Basel), 2019 May 30; 11 (6).

Li X, Spelat R, Bartolini A, Cesselli D, Ius T, Skrap M, Caponnetto F, **Manini I**, Yang Y, Torre V. Mechanisms of malignancy in glioblastoma cells are linked to mitochondrial Ca^{2+} uniporter upregulation and higher intracellular Ca^{2+} levels. J Cell Sci. 2020 Mar 24;133(6).

Manini I, Caponnetto F, Dalla E, Ius T, Della Pepa GM, Pegolo E, Bartolini A, La Rocca G, Menna G, Di Loreto C, Olivi A, Skrap M, Sabatino G, Cesselli D. Heterogeneity Matters: Different Regions of Glioblastoma Are Characterized by Distinctive Tumor-Supporting Pathways. Cancers (Basel). 2020 Oct 13;12(10).

Caponnetto F, Dalla E, Mangoni D, Piazza S, Radovic S, Ius T, Skrap M, Di Loreto C, Beltrami AP, **Manini I**, Cesselli D. The miRNA Content of Exosomes Released from the Glioma Microenvironment Can Affect Malignant Progression. Biomedicines. 2020 Dec 3;8(12).

Menna G, **Manini I**, Cesselli D, Skrap M, Olivi A, Ius T, Della Pepa GM. Immunoregulatory effects of glioma-associated stem cells on the glioblastoma peritumoral microenvironment: a differential PD-L1 expression from core to periphery? Neurosurg Focus. 2022 Feb;52(2): E4.

Ricciardi L, **Manini I**, Cesselli D, Trungu S, Piazza A, Mangraviti A, Miscusi M, Raco A, Ius T. Carmustine Wafers Implantation in Patients With Newly Diagnosed High Grade Glioma: Is It Still an Option? Front Neurol. 2022 Jun 23;13: 884158.

Manini I, Dalla E, Vendramin V, Cesselli D, Di Loreto C, Skrap M, Ius T. Identification of a Prognostic Microenvironment-Related Gene Signature in Glioblastoma Patients Treated with Carmustine Wafers. Cancers (Basel). 2022 Jul 14;14(14):3413.

Spelat R, Jihua N, Sánchez Triviño CA, Pifferi S, Pozzi D, Manzati M, Mortal S, Schiavo I, Spada F, Zanchetta ME, Ius T, **Manini I**, Rolle IG, Parisse P, Millán AP, Bianconi G, Cesca F, Giugliano M, Menini A, Cesselli D, Skrap M, Torre V. The dual action of glioma-derived exosomes on neuronal activity: synchronization and disruption of synchrony. Cell Death Dis. 2022 Aug 13;13(8):705.

ELENCO TITOLI IVANA MANINI

Settembre 2022: Master di II Livello in Tecniche di Procreazione medicalmente assistita e Scienze della Riproduzione Umana (Dipartimento di Salute della Donna e del Bambino, Università di Padova.

Febbraio 2008: Dottorato di ricerca in "Biologia e fisiopatologia cellulare", conseguito presso l'Università degli Studi di Siena. **Titolo della tesi**: "Isolamento, espansione e caratterizzazione di precursori mesenchimali da tessuto adiposo umano".

II sessione anno 2006: Abilitazione alla professione di Biologo.

Luglio 2004: Laurea in Scienze Biologiche, conseguita presso l'Università degli Studi di Siena, con la votazione di 110/110 e lode. **Titolo della tesi**: "Analisi dell'espressione del Recettore della Rianodina di tipo 3 (RyR3) durante lo sviluppo post-natale del muscolo scheletrico".

Luglio 1977: Diploma di Maturità Classica, conseguito presso il Liceo Classico Dante Alighieri, di Orbetello (GR), con votazione 60/60.

REDATTO AI SENSI DEGLI ARTICOLI 46, 47 E 49 DEL D.P.R 445/00