

# Marie Skłodowska Curie Individual Fellowship 2020

## Expression of Interest for hosting Marie Curie Fellows

### 1. Supervisor (name and e-mail address)

Alessandro Fanzani, alessandro.fanzani@unibs.it

### 2. Department (name and address)

Department of Molecular and Translational Medicine, viale Europa 11

### 3. Panel (choose one)

Life Sciences (LIF)

### 4. Description of your research activities (max 10 lines)\*

The main research activities concern the identification and characterization of molecular markers and pathways involved in the malignancy of soft tissue neoplasms of mesenchymal origin, in particular rhabdomyosarcoma (RMS) and liposarcoma (LPS). RMS is the most frequent soft tissue tumor affecting the pediatric age, and is a myogenic tumor. LPS instead is a malignancy of fat cell arising late in adulthood, from the 5<sup>th</sup>-6<sup>th</sup> decade of life. Currently, the major efforts aim to establish the functional role of two classes of proteins, known as Caveolins and Cavins, in the progression of both RMS and LPS. These multifunctional proteins play a pivotal role in the generation of the plasma membrane domains known as caveolae, which are involved in endocytosis, cholesterol homeostasis and signal transduction. We generated tumor xenograft models as well as established in vitro models to understand how these proteins may facilitate or hamper the tumor progression.

## 5. Key-words

Cancer; sarcomas; rhabdomyosarcoma; liposarcoma; molecular screening.

## 6. Short CV of the supervisor (max 5 lines)

2015-present: **Associate Professor** of Biochemistry at the School of Medicine, University of Brescia (Italy).

2005: **Researcher position** at the School of Medicine, University of Brescia (Italy).

2004-2005: **Post-Doc** at the Department of Microbiology by the New York University (USA).

2003 (December 15<sup>th</sup>): **PhD** in “Cellular and Molecular Biotechnologies applied to the Biomedicine” University of Brescia (Italy).

Author of 44 recognized international publications.

## 7. List of 5 main publications of the supervisor

- 1) Codenotti S, Faggi F, Ronca R, Chiodelli P, Grillo E, Guescini M, Megiorni F, Marampon F, Fanzani A. Caveolin-1 enhances metastasis formation in a human model of embryonal rhabdomyosarcoma through Erk signaling cooperation, 2019, Cancer Letters May 1;449:135-144.
- 2) Codenotti S, Poli M, Asperti M, Zizioli D, Marampon F, Fanzani A., Cell growth potential drives ferroptosis susceptibility in rhabdomyosarcoma and myoblast cell lines, 2018, Journal of Cancer Research and Clinical Oncology Sep;144(9):1717-1730
- 3) Faggi F, Chiarelli N, Colombi M, Mitola S, Ronca R, Madaro L, Bouche M, Poliani PL, Vezzoli M, Longhena F, Monti E, Salani B, Maggi D, Keller C, Fanzani A., Cavin-1 and Caveolin-1 are both required to support cell proliferation, migration and anchorage-independent cell growth in rhabdomyosarcoma, 2015, Lab Invest. Jun;95(6):585-602.
- 4) Faggi F, Mitola S, Sorci G, Riuzzi F, Donato R, Codenotti S, Poliani PL, Cominelli M, Vescovi R, Rossi S, Calza S, Colombi M, Penna F, Costelli P, Perini I, Sampaolesi M, Monti E, Fanzani A., Phosphocaveolin-1 enforces tumor growth and chemoresistance in rhabdomyosarcoma, 2014, PLoS One Jan 10; 9(1): e84618.
- 5) Fanzani A, Conraads VM, Penna F, Martinet W., Molecular and cellular mechanisms of skeletal muscle atrophy: an update, 2012, J Cachexia Sarcopenia Muscle. Sep;3(3):163-79.

\*Please consider that the preparation of a Marie Curie proposal requires some time. Fellow and supervisor have to agree on a project and training opportunities for the fellow.