

MetaFight: challenging cancer

The EU-funded research consortium MetaFight ("Understanding and fighting metastasis via dissection of the Core Invasive Machinery") is helping to speed-up the development of cancer drugs and uncovering the molecular mechanisms of metastasis. MetaFight is supported by the Research Framework Programme 7 (FP7) of the European Commission with funds amounting to 3 Million Euros.

Cancer diseases account for 7.6 million deaths a year (WHO number for 2005). Metastases, the most fearsome aspect of cancer, are responsible for approximately 90% of all cancer deaths. Consequently, the study of the spread of cells from a primary cancer and the formation of new tumors in distant organs is the basis of modern cancer research. Understanding all the steps behind this process and the dissection of its core invasive machinery is the prerequisite for the successful fight against cancer.

The aim of MetaFight is to improve tremendously the understanding of the molecular processes behind metastasis. Nine leading research groups from six different European countries collaborate over three years to find new candidate targets for blocking metastasis outgrowth of cancer cells.

MetaFight is concentrating on molecular functional studies to understand the dissemination and outgrowth of metastasis. The research groups involved are collaborating intensively to study all the steps involved in the complex interactions between a cancer cell and its surroundings, including the process that leads to the formation of a new invasive tumor tissue. By focusing on the molecular mechanisms of metastasis, the MetaFight consortium will focus on the **Core Invasive Machinery** contained within integrin-mediated attachment structures as a major player in regulating cell adhesion, migration and invasion in the early onset of tumour metastasis as well as in homing of metastatic cells to target organs. The goal is to develop new potential therapeutic molecules together with industrial partners.

Seven leading European universities and research institutes active in the field of metastasis research, and two companies active in the oncology field have joined their expertise and efforts in the MetaFight project:

- Molecular Biology Centre (MBC) of the University of Torino, Italy
- Cancer Research Center (CIC), Spain
- Centro de Investigaciones Biológicas, CSIC, Spain
- Karolinska Institutet, Sweden.
- Max Planck Institute of Biochemistry, MPIB, Germany
- University of Leiden, The Netherlands
- University of Turku, Finland
- Actar AB, a biomedical company in Sweden
- PharmaMar, a biopharmaceutical company in Spain

The project is coordinated by Professor Paola Defilippi at the University of Torino UNITO with the support of ARTTIC, a French SME specializing in the management of international research collaborations.

In 2009, the MetaFight consortium initiated a first common workshop (summer-school) that grouped all FP7 European projects engaged in metastasis research (Metafight, TuMIC, and SFMET), and which was held in Sesimbra, Portugal.

More information on the project available on: <http://www.metafight.eu>

Contact: Metafight-po@arttic.fr