



## RESEARCH TOPIC MEM6

Monitoring disease recurrence in patients with pleural mesothelioma: a tumor-agnostic approach

Curriculum MEM standard

Research Area

Onco

Laboratory name

Laboratory of Cancer Pharmacology/Translational Genomic Unit

Research Supervisor

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Abstract

Pleural mesothelioma (PM) is a malignant disease with a very poor prognosis. Its circumferential and axial growth patterns make the evaluation of therapy response through computed tomography (CT) challenging. The aim of this project is to identify molecular features that can aid clinicians in the assessment of treatment response.

From a retrospective cohort of PM patients enrolled in a clinical trial, blood samples have been collected at diagnosis (naive to treatment) and after surgery or treatment at different timepoints. Clinical data and CT scan images are provided. The candidate will process and sequence plasma samples through shallow Whole Genome Sequencing (sWGS) for the evaluation of the tumor fraction and regions of copy number alterations. The candidate will analyze molecular data and integrate them with clinical records to identify features associated with therapy response and timing of cancer recurrence.

Main technical approaches

The applicant should have:

1. the ability to prepare genomic libraries from both liquid and solid tumor biopsies.
2. soft skills to interact with clinicians and pathologists.
3. interest in translational research.

Scientific references

1. Mannarino L, Mirimao F, Panini N, Paracchini L, Marchini S, Beltrame L, Amodio R, Grosso F, Libener R, De Simone I, Ceresoli GL, Zucali PA, Lupi M, D'Incalci M. Tumor treating fields affect mesothelioma cell proliferation by exerting histotype

