



Dipartimento di Biotecnologie e Bioscienze – UNIMIB

Thursday, September 12, 2024, 4:30 p.m., U3-BIOS building, room U3-08

Signalling architecture underlying breast cancer cell motility

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Abstract: Cell migration is vital to a variety of biological processes including wound healing, the immune response, embryonic development, and cancer cell metastasis. Growth factors and proteins in the extracellular matrix (ECM) provide cues to guide migrating cells. However, the specific contribution of each of these signals and potentially their integration via intracellular signalling pathways to promote cell migration are still poorly understood. Here, combining quantitative proteomics and phosphoproteomics with bioinformatics, and functional validation in both breast cancer cell models and patient samples, we investigated:

1) how localization of Receptor Tyrosine Kinases affects signalling networks underlying cell motility, mitogenicity, and survival

2) the hypothesis that non canonical signalling pathways like regulators of DNA-damage and metabolism regulate migration in response to both ECM and growth factors signals

3) a new signalling axis promoting bone metastasis in breast cancer

Our findings show that a more intricated signalling architecture than anticipated fine tunes the motility of breast cancer cells with profound implications for our understanding of breast cancer metastasis and for improving the therapeutic options available for patients.

Host: Paola Coccetti

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