**Project title:** Metabolic symbiosis between mammary adipocytes and tumor cells: a new mechanism linking obesity and breast cancer prognosis

Our team located in Toulouse possesses internationally recognized expertise in deciphering the crosstalk between adipose tissue and cancer in obesity (<http://www.ipbs.fr/microenvironment-cancer-and-adipocytes>). Obesity is associated with increased risk of breast cancer (BC) recurrence and death. The adipocytes provide an underappreciated source of lipids for the cancer cells, this metabolic symbiosis being likely to be key to the aggressive nature of BC in obesity. Our hypothesis is that the lipid exchange that occurs between tumour-surrounding adipocytes and BC cells contributes to tumour progression in obesity. The project will be conducted in vivo using metabolic imaging and in vitro (coculture model available in the lab)

**Main publications of the team (last 3 years)** : Attané et al, Cell reports 2020 ; Clément et al, EMBO J, 2020, Lehuédé et al, Breast Cancer Research, 2019 ; Wang et al, JCI insight, 2017, Laurent et al, Nature Communications, 2016

**Key words:**

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| --- | --- | --- |
| * *Breast Cancer*
 | * Adipose tissue
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| * Obesity
 | * Cellular Metabolism
 |  |

**Profile and skills of the candidate:**

A background in cellular biology, imaging and cellular metabolism will be appreciated. The project is not still funded – candidate will applied to several charities FRM, ARC – INCA funded position might be available (depending of team success in full-project application)

**Lab:** *Institute of Pharmacology and Structural Biology CNRS UMR 5089*

**Location:** Toulouse France

**Contact:** *Pr Catherine Muller – mail : catherine.muller@ipbs.fr*

**Dead line to submit / Starting dates: End of May 2020**