

## **NANOMETTS: Drug nanoconjugates and nanovesicles for the treatment of metastatic colorectal cancer.**

**ADRESSED PATHOLOGY: Cancer**

### **PARTICIPANTS:**

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**GENERAL OBJECTIVES:** This project aims to find a way to improve current therapy in metastatic colorectal cancer by achieving active drug delivery, by receptor-mediated internalization to colorectal cancer stem cells. The goal is to develop nanoconjugates capable to internalize into these cells through a specific receptor which is expressed on them, whereas this overexpression is associated to poor prognosis for the patients. In the first strategy, the nanoconjugate is composed by a multimeric protein nanoparticle that incorporates a specific ligand for the target receptor of the cell, chemically conjugated to a genotoxic drug. On the other hand, it will be also explored the effectiveness of unilamellar vesicles functionalized with the specific ligand and loaded with siRNA, as a strategy directed to individualize therapy by targeting patient-specific tumor mutations.