

Technology offer IP-026

## Suramin for the Prevention and Treatment of Colorectal Cancer

Researchers from IMIB propose the new use of Suramin as an irreversible inhibitor drug of hepsin, reducing migration and invasion of colorectal cancer cells and thrombin generation in plasma. This action makes it useful for preventing and treating complications associated with colorectal cancer, especially in patients with elevated hepsin levels.

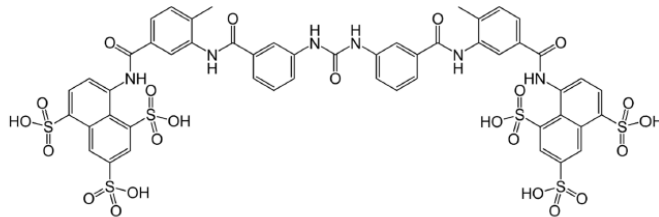


Figure. Structural formula

### **State of development**

TRL-4 Laboratory validation

### **Industrial Property**

Granted spanish patent

Priority date: 19/9/2021

### **Objective of the collaboration**

License and/or co-development

### **Contact**

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### **Market needs**

Colorectal cancer is one of the leading causes of morbidity and mortality worldwide, with a high incidence of metastasis and recurrence despite surgery and chemotherapy. Hepsin, a transmembrane serine protease, plays a key role in carcinogenesis by promoting tumor invasion and activating signaling pathways that drive cancer progression. Its overexpression is associated with poor prognosis and recurrence, while its dysregulation contributes to thrombogenesis and hemorrhagic complications. Current therapeutic options, such as surgery, chemotherapy, and targeted therapies, have limitations in efficacy and show high variability in patient response. Therefore, there is an urgent need for new treatments that can prevent tumor progression and reduce complications associated with colorectal cancer.



### **Technical solution from IMIB**

Suramin acts on hepsin, a key target in the progression and invasion of metastatic colorectal cancer. *In vitro* studies have shown that it effectively inhibits hepsin activity, reducing processes associated with cell proliferation and migration. *In vivo* models demonstrated that the compound can prevent and treat colorectal cancer and reduce the occurrence of venous thromboembolic events associated with antineoplastic therapy, offering an effective and safe therapeutic solution.

### **Benefits**

- It irreversibly inhibits hepsin, key in tumor invasion, with greater specificity than chemotherapy.
- Potential use in the prevention and treatment of metastatic colorectal cancer, including the reduction of venous thromboembolic events associated with antineoplastic therapy.
- High selectivity for hepsin, reducing side effects.
- Its targeted mechanism allows for effective action with a lower risk of systemic toxicity compared to conventional chemotherapy.