

## **COST Action 17104 - STRATAGEM - WG2 Training School**

### **“Targeting MDR Tumours: from natural product chemistry to nanocarrier-based formulation”**

#### **1) The venue:**

Sapienza University – Faculty of Pharmacy and Medicine – Department of Chemistry and Technology of Drugs – Building CU019 – Piazzale Aldo Moro 5 – I 00185 Roma – ITALY

#### **2) Proposed dates:**

**30 June / 01 July / 02 July 2021**

#### **3) TS description:**

The natural products (NPs) drug discovery process will be outlined highlighting the key steps: i) hit compound identification by *in silico* and *in vitro* screening of NPs library; ii) isolation and structural elucidation of NPs; iii) synthesis and characterization of NPs and derivatives; iv) encapsulation of the most promising NPs within nanoparticles (lipid nanocapsules and polysaccharide nanogels) to increase their bioavailability, decrease their toxicity and improve the targeting of cancer cells. The training school will be organized around theoretical lectures on different topics (NPs chemistry, NPs library, mechanism of action of new anticancer agents, nanocarrier formulation, cancer treatments, targeting of multidrug resistant (MDR) tumours) and practical experiments (natural product chemistry, physico-chemical characterisation, nanoformulation) in the laboratories of the department.

#### **4) Potential TS outputs:**

Theoretical and practical notions on the anticancer action of NPs will allow training school participants (PhD students and Postdocs are expected) to explore different aspects from NPs synthesis to their incorporation in nanometric carriers capable of targeting MDR tumours.

**Organized by researchers of COST STRATAGEM WG2  
(New therapeutic tools against MDR & Nanodelivery of the therapeutic tools)  
this summer school will allow to reinforce the knowledge about new bio-active  
compounds and drug delivery strategies to overcome therapy resistance**