

COST ACTION CA17140 Cancer Nanomedicine – from the Bench to the Bedside (Nano2Clinic)



Number of represented COST Countries: **34** Number of represented COST ITC

Countries: 18

Number of MC members: 64

ITC = Inclusiveness Target Country











COST Action CA17140 is the first, pan-European interdisciplinary network of representatives from academic institutions and small and medium enterprises (SMEs) including clinical research organizations (CROs) devoted to the development of nanosystems carrying anticancer drugs from their initial design, preclinical testing of efficacy, pharmacokinetics, and toxicity to the preparation of detailed protocols needed for the first phase of their clinical studies.

By promoting scientific exchanges, technological implementation and innovative solutions, the Action will provide a timely instrument to rationalize and focus research efforts at the EU level in dealing with the grand challenge of nanomedicine translation in cancer, one of the major and societal-burdening human pathologies.

By virtue of its quality, the CA17140 network will also generate research core teams of excellence for funding applications, patent filling, and discovery of major scientific impact. The network will also be actively devoted to raising awareness on the high potential on nanomedicine through publications in international peer-reviewed journals, and presentations at open events.

Moreover, CA17140 is strongly committee to provide excellence in training European Young Investigators/Innovators and guide them along the pathway towards independent research leadership, with no discrimination whatsoever with respect to nationality, age, or gender.









Scientific challenges and goals

- To directly address, for the first time, all translational aspects of cancer nanomedicine from a comprehensive and multidisciplinary perspective
- To yield an unprecedented, comprehensive knowledge in the field
- To afford a fundamental contribution to the field by removing those critical hurdles in developing effective cancer-targeting nanomedicines, which, nowadays, impede both the effective application of nanotechnology in medical applications and the subsequent definition of rationally conceived clinical trial-based nanomedicines

Working together

To face the challenges and meet the goals, CA17140 is organized into 4 working groups (WGs)

WG1: Manufacturing Nanodrugs

WG2: Physico-Chemical Characterization of Nanodrugs

WG3: Preclinical Studies of Nanodrugs

WG4: Guidelines for Clinical Trials and Regulatory Aspects of Nanomedicines









Research Coordination

- *Promote active and multidisciplinary collaboration on each aspect of the cancer nanomedicine development pipeline from design to clinical translation
- *Accelerate major discoveries in cancer nanomedicine, to ultimately benefit the health of the EU society by translating fundamental research into clinical applications
- *Foster synergies between complementary EU groups of excellence, specifically involving SMEs, regulatory agencies, academic clinical research centers, clinical research organizations (CROs) and other public/industrial entities
- *Nurture cross-pollination of competencies and transfer of results within the EU actors belonging to public and private sectors by extensive exchange of PhD students, young researchers/innovators, and senior scientists
- *Disseminate results to all potential stakeholders, including public organisms and funding agencies and, by means of dedicated didactical events, to patient associations and the general public, to increase EU citizen awareness of the social benefits of the Action results

Capacity building

- Forge strong partnership between academia and industry by ensuring equal participation of these two groups
- Train and mentor young generations of researchers working in academia and research & development industrial departments, to pave their way towards autonomous research leadership
- Empower equal opportunities by providing unbiased access to COST initiatives and respecting balanced gender distribution
- Stimulate participation from less active Countries, according to the inclusiveness policy of COST
- ❖Increase visibility and leadership position of the EU in cancer nanomedicine research
- Create a sustainable critical mass of excellence in basic, applied, industrial and clinical sciences to apply for further research funding









KEY ROLES IN CA17140

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