

Mapping the detailed composition (epitope exposure) of surface-adsorbed protein layers on biomaterials and nanoparticles - an alternative approach to biocompatibility and nanosafety (EpitopeMap)

Duration of the programme

May 2007 - May 2012

Programme Website

<http://www.esf.org/epitopemap>

Programme Summary

Interactions between cells and biomaterials determine the level of success of medical implants. A new paradigm for thinking about cell-biomaterial interactions is emerging, where it is the effect that the biomaterial has on the proteins that adsorb to the material upon contact with physiological solution that is important, rather than the actual nature of the surface itself. The important parameter is thus the conformation and structure of the adsorbed protein layer, and in particular, the very outer protein layer, as this is what the cells actually see. In this program we intend to bring together scientists working in the traditionally separate areas of biomaterials and nanoparticles, in order to develop and apply the most cutting-edge characterization techniques to understanding the nature of the surface-adsorbed protein layer on biomaterials and nanoparticles, and the effect of this on biocompatibility and nanoparticle toxicity.

Envisaged highlights of the program include the exchange of ideas between traditionally distinct research areas, by bringing together a range of physical (characterisation and visualisation) techniques with biological and medical approaches to addressing the common goals. This will result in a great increase in the pace of understanding, helping to create a rational basis for risk assessment, and a reduction in the barriers to developing commercial applications of biomaterials and nanoparticles.

GRANTS ARE OPEN TO EVERYONE!!

EpitopeMap grants are open to all, and participants in the development of the EU FP7 proposal for a European Infrastructure on nanomaterials processing, analysis and characterisation in a biological context are encouraged to apply.

Applications are submitted using the on-line form, via the [grants](#) tab on the website

2 types of grant available in **EpitopeMap**:

Short visits to initiate collaboration / discussion (up to 15 days, rolling call)

- Short visit grants are reimbursed on a per diem basis of 85 EUR plus actual travel expenses up to a maximum of 500 EUR after the visit on submission of a completed balance payment form accompanied by the original travel tickets, and a short scientific report on the outcomes.
- Application consists of a short description of the proposed project work / discussion topic (about 250 words) and the duration of the stay.

Exchange grants (15 days to 3 months)

- Exchange grants are reimbursed on the basis of an allowance of 1,600 EUR per month / 400 EUR per week / 57 EUR per day plus actual costs for travel, up to a maximum of 500 EUR.
- Applications providing a short description of the proposed project work (about 1000 words) and the duration of the stay should be submitted using the on-line forms.
- Exchange grants should be supported by a letter of recommendation from someone familiar with the applicant's work (if appropriate), a letter of acceptance from the receiving (host) institution and the applicant's curriculum vitae (maximum two A4 pages).

Next Application Deadline: 1ST DEC. 2009

Eligibility for Grants:

- Undertake work applicable to the Programme
- Apply to stay in a European country other than the country of origin
- Return to the institute of origin upon termination of the EpitopeMap grant, so that the applicant's institution may also benefit from the broadened knowledge of the scientist
- Acknowledge ESF in publications resulting from the grantee's work in relation to the grant.

For more information, and to access the grant application forms, please visit the EpitopeMap website:

<http://www.esf.org/epitopemap>

or contact us on epitopemap@cbni.eu

Upcoming EpitopeMap Events

March 2010, Focused Workshop, Finland:

Focused on ecological and environmental aspects of nanosafety.

Local organiser: Dr. Marcus Linder (VTT)

April 2010, International Conference, Cyprus:

Focused on fabrication and safety concerns of nanoparticulate systems developed for theranostic applications.

Local organiser: Dr. Theodora Krasia (UCY)

Contacts

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