



PROGRAMUL DE COOPERARE ELVEȚIANO-ROMÂN
SWISS-ROMANIAN COOPERATION PROGRAMME

Role of the Endoplasmic Reticulum Associated Degradation (ERAD) pathway in the degradation of tyrosinase and production of antigenic peptides in human melanoma

Starting Date 01.10.2012

Duration 36 Months

Discipline Health

Main Goals

- Identification of potential targets for enhancing antigen presentation
- Confirmation of the potential targets in a panel of melanoma cells
- Monitoring T cell activation and tumor regression in an animal model



Activities

- Expression of tyrosinase mutants in amelanotic cells and investigation of their potential to provide antigen for recognition by CD8 T cells
- Antigenicity of melanoma cell lines with knockout/ overexpressed ERAD proteins
- Study the effects of ERAD pathway upregulation in the immunogenicity of melanoma cells

Expected results

- The collaboration funded by this FNS grant aims at determining the exact role of ERAD components in the generation of tyrosinase-derived tumour antigen
- The results from this research project will have implications for the understanding of basic mechanisms of antigen processing and presentation to T cells
- They will also provide valuable clues to enhance the efficacy of peptide-based cancer vaccines

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