



Expression of Interest

The Protein Chemistry Group of the National Centre for Scientific Research “Demokritos” (<http://rrp.demokritos.gr/> - Research – Protein Chemistry or <http://sites.google.com/site/stratikos/>) is seeking potential postdoctoral partners for a joint grant application to fund research projects in the area of the **biochemistry of antigen processing and immune response**. Research projects in this direction of the laboratory are the direct extension of results published during the last 2 years:

- Irimi Evnouchidou, Frank Momburg, Athanasios Papakyriakou, Angeliki Chroni, Leondios Leondiadis, Shih-Chung Chang, Alfred L. Goldberg and Efstratios Stratikos. The internal sequence of the peptide-substrate determines its N-terminus trimming by ERAP1. *PLoS ONE* (2008), 3(11),e3658.
- Irimi Evnouchidou, Athanasios Papakyriakou and Efstratios Stratikos. A new role for Zn(II) aminopeptidases: Antigenic peptide generation and destruction. *Current Pharmaceutical Design*, (2009) 15(31):3656-70.
- Irimi Evnouchidou, Marcelo J. Berardi and Efstratios Stratikos. A continuous fluorogenic assay for the measurement of the activity of endoplasmic reticulum aminopeptidase 1: Competition kinetics as a tool for enzyme specificity investigation. *Analytical Biochemistry*, (2009) 395(1):33-40.
- Dimitra Georgiadou, Arron Hearn, Irimi Evnouchidou, Angeliki Chroni, Leondios Leondiadis, Ian A. York, Kenneth L. Rock and Efstratios Stratikos. PLAP efficiently generates mature antigenic peptides in vitro but in patterns distinct from ERAP1. *Journal of Immunology*, in press.

Possible research projects include:

- 1) The investigation of the molecular mechanisms behind antigenic peptide selection by ER aminopeptidases
- 2) The evaluation of the diagnostic/prognostic value of Single Nucleotide Polymorphisms (SNPs) of ERAP1 and the investigation of the role of ERAP1 allelic forms in the pathogenesis of autoimmunity
- 3) The development of highly selective small molecular weight inhibitors of ER aminopeptidases as a novel generation of immuno-modulatory drugs.

The ideal postdoctoral candidate should have recently completed (or about to complete) his/hers doctoral thesis in the field of biochemistry, chemistry or biology and have research experience in using biochemical assays, cell culture and molecular biology techniques to investigate cellular events on a molecular level. Knowledge of recombinant protein expression and purification is highly desirable.

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