PASTEUR INSTITUTE SEMINAR SERIES

Giovedì 10 Ottobre, ore 14:30

Aula Bignami

Viale Regina Elena 324 - Policlinico Umberto I

Dr. Shoba Amarnath

Institute of Cellular Medicine

Newcastle University, UK

Dissecting the role of PD-1 in the immune system

Our laboratory has focused on the role of the coreceptor programmed death-1 (PD-1) in maintaining Foxp3, a master transcription factor that controls Treg cell function. Using this model system, we have unraveled a new post-translational pathway that is controlled by PD-1 in Tregs. We have identified a novel endolysosomal protease with nuclear activity called legumain or asparaginyl endopeptidase (AEP) in Tregs. AEP induces an inflammatory phenotype in Tregs by degrading Foxp3; this process is inhibited by PD-1 activation in Tregs. This function of PD-1 is conserved in human Treg cells. Our unique expertise in defining PD-1 function in Tregs led us to investigate the role of PD-1 in innate lymphoid cells (ILC). Our laboratory has identified the role of PD-1 in controlling group 2 ILC function whereby blocking PD-1 enhances ILC-2 mediated anti-helminth Immunity. Ongoing efforts have identified novel role for PD-1 in regulating ILC function in experimental murine models of cancer. In summary, these data highlight a previously unknown important function for PD-1 in modulating novel immune cell subsets which may impact immunotherapeutic strategies where PD-1 blocking antibodies are utilized.

ISTITUTO PASTEUR ITALIA
FONDAZIONE CENCI BOLOGNETTI

LA RICERCA IN PERSONA

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