

Application for a:	Reintegration Scheme NEWFELPRO Fellowship for senior researcher
Proposal Acronym:	MkPI
Proposal Title:	The role of phosphatidylinositol 3-monophosphate in thrombopoiesis
Research area(s):	Life sciences LIF
Research sub-disciplines:	LIF/ Cell differentiation- physiology and dynamics / Signal transduction
Category of research:	basic
Duration in months:	24
Keywords:	megakaryocytes, proplatelets, platelets, phosphatidylinositides, cell signaling, cytoskeleton, sorting nexin
Abstract:	<p>Platelets are essential for wound healing and control of bleeding. Cancer and leukemia treatments or organ transplants often lead to reduced platelet numbers, putting patients at risk of bleedings. Platelets derive from cytoplasm of megakaryocytes (MKs) in the bone marrow in a process called thrombopoiesis. Molecular mechanisms that govern elaborate cytoplasmic changes of MKs into proplatelets and then finally platelets remain largely unknown. In this project we seek to reveal the role of phosphatidylinositol 3-monophosphate (PI3P) in platelet formation. We will use genetically engineered fluorescent probes to define PI3P spatial and temporal localization and its function in MKs and proplatelets. We will examine if PI3P involvement in endosomal trafficking contributes to platelet biogenesis. These studies will contribute to our understanding of basic molecular processes underlying platelet formation and might lead towards novel therapeutic strategies to modulate platelets counts.</p>
Does this proposal possess any of the sensitive ethical issues detailed in ethical issues table?	Yes