

Application for a:	Outgoing Scheme NEWFELPRO Fellowship for experienced researcher
Proposal Acronym:	EMBRIVAR
Proposal Title:	Functional contribution of embryonic histone H1 variant of Drosophila, dBigH1, to germline development
Research area(s):	Life sciences LIF
Research sub-disciplines:	Molecular and Structural Biology and Biochemistry Molecular biology and interactions Genetics, Genomics, Bioinformatics and Systems Biology Epigenetics and gene regulation Cell differentiation - physiology and dynamics Cell signalling and cellular interactions
Category of research:	basic
Duration in months:	36
Keywords:	Drosophila, embryonic histone variant, dBigH1, germline, gametogenesis, phosphorylation
Abstract:	Histone H1 is known to play a central role in the structural organisation of chromatin. In Drosophila, embryonic histone H1 variant, dBigH1, was characterized. It is present during early-embryo development, when somatic dH1 is not present and there is no zygotic transcription. At cellularisation, BigH1 is replaced by dH1 in somatic cells, but not in the germline pole-cells. The role of dBigH1 in the somatic cells is in preventing premature zygotic transcription, while the role of dBigH1 in germline development is still to be addressed. Knock-down and genetic experiments will be performed to determine the effects of dBigH1 depletion on male and female gametogenesis. Mechanisms, timing and consequences of dBigH1 loading to the paternal genome after fertilization, together with replacement of dBigH1 by dH1, will be addressed, as well as the role of phosphorylation in this process, the identification of kinase/phosphatase and the signaling pathway that regulates this phosphorylation.
Does this proposal possess any of the sensitive ethical issues detailed in ethical issues table?	No