

LERU STudent REseArch Mobility Programme (STREAM)
Project proposal



Host University:
Università degli studi di Milano



Field:
Medicine/biology

Specified field, subject:
Molecular biology, pharmacology

Research project title:
Role of the human Polyomavirus BK in the development of the prostate cancer: testing the "hit and run" hypothesis.



Possible starting month(s):

Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
x											



Possible duration in months:

1	2	3	4	5	6
		x			x



Suitable for students in: 2nd cycle (Master students)

Prerequisites: Students in Biology, Biotechnology, Pharmacology; basic skills in molecular and cell biology

Restrictions: none



Description:

BKV infects normal epithelial cells and induces them to proliferate, probably sequestering the p53 in the cytoplasm, by the viral LT-Ag protein. As the cells proliferate, they might accumulate mutations and the virus might be lost by the host cells. The process underlying this "Hit and run mechanism" is completely unknown. The aims of the projects are:

To test in vitro the "Hit and run" hypothesis, answering to some unresolved questions: does the BKV integrate its genome in the host genome?, does the BKV modify the cells morphology, inducing epithelial-mesenchymal transition?, does the BKV modify the migration and invasion ability of the cells?, does the BKV infection promotes mutations in the cell genome?

To detect and characterize ex vivo at molecular level the genome of BKV infecting PCa and to correlate the findings with demographic and clinical information of PCa patients.

Faculty or Department Department of Biomedical, Surgical and Dental Sciences - Università degli Studi di Milano

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