

SCHEDA DISPONIBILITA' PER ATTIVITA' DI LABORATORIO PER ESAME FINALE (Laurea) CDL BIOTECNOLOGIE (triennale)	
Relatore o co-relatore:	
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Relatore garante:	
(nel caso di co-relatore esterno ai Dipartimenti afferenti al cdl)	
N° tirocini disponibili I semestre	2
N° tirocini disponibili II semestre	2
Titolo e descrizione attività proposta	(max 500 caratteri circa)
Role of DGKα in the tumorigenic potential Glioblastoma Stem Cells <p>Glioblastoma multiforme (GBM) is an highly aggressive and invasive malignancy that still remain virtually incurable. Glioblastoma stem cells (GSCs), that constitute a reservoir of self-sustaining cells are considered the primary cause of GBM invasiveness and recurrence and novel therapeutic protocols based on rational molecular targeting of these cells are required. Diacylglycerol kinases (DGKs) catalyzes the phosphorylation of DG to phosphatidic acid (PA), acting as a braking mechanism that terminates DG-mediated signal and activates PA-mediated signals. DGKα is involved in growth factors and chemokines induced chemotaxis, cell migration, scattering invasion, anchorage independent proliferation and matrix invasion of neoplastic cells. Recently, DGKα inhibition has been demonstrated to be effective in GBM and melanoma cell lines xenograft models, with growth delay and decreased vascularity. Nonetheless the mechanisms that underlie the contribution of DGKα to gliomagenesis have not been clarify. We aim to investigate the role of DGKα in modulating the tumourigenic potential of GSCs. For this purpose, we want to: i) Identify the interactors of DGKα in GBM by confocal microscopy and immunoprecipitation/Western Blot; ii) Define the metabolic profile of DGKα-silenced cells by specific assays for the quantification of NAD/NADH H⁺, NADP/NADPH and ATP; iii) Characterize the integrin activity of GSC by FACS analysis and western Blot</p>	
Pubblicazioni recenti più significative	(max 4) 1° autore, titolo, rivista, anno:
<p>Rainero, E., et al. (2014). The Diacylglycerol Kinase α/Atypical PKC/β1 Integrin Pathway in SDF-1α Mammary Carcinoma Invasiveness. <i>PLoS ONE</i>, 9(6), e97144. http://doi.org/10.1371/journal.pone.0097144.s005</p> <p>Rainero, E., et al. (2012). Diacylglycerol kinase controls RCP-dependent integrin trafficking to promote invasive migration. <i>The Journal of Cell Biology</i>, 196(2), 277–295. http://doi.org/10.1038/ncb1774</p> <p>Dominguez, C. L., et al. (2013). Diacylglycerol Kinase Is a Critical Signaling Node and Novel Therapeutic Target in Glioblastoma and Other Cancers. <i>Cancer Discovery</i>, 3(7), 782–797. http://doi.org/10.1158/2159-8290.CD-12-0215</p>	