

**P019** Identification of two putative RhoGAP proteins encoded by *DEPDC1* and *DEPDC1B* genes

**G. Volpi<sup>1</sup>, P. Malatesta<sup>1</sup>, G. Scita<sup>2</sup> and R. Perris<sup>1</sup>**

<sup>1</sup>*Department of Evolutionary and Functional Biology, University of Parma, Italy;* <sup>2</sup>*Istituto FIRC di Oncologia Molecolare, Milan, Italy*

An RNA differential display screening between human mesenchymal stem cells (MSCs) and pleomorphic sarcoma cells has recently identified a differentially expressed gene corresponding to *DEPDC1B* in MSCs. Real-time PCR analysis confirmed the differential expression of *DEPDC1B* and additionally identified the expression of the transcript in a variety of different tumour cells. Unlike *DEPDC1B*, its human homologue *DEPDC1* was found to be weakly expressed both in MSCs and in pleomorphic sarcoma cells. Both genes encode for proteins with putative central RhoGAP- and a N-terminal DEP- (*Dishevelled-Egl10-Pleckstrin*) homology domains, which may be involved in signal transduction and membrane-cytoplasmic-nuclear shuttling. In order to gain insight about the biological function of *DEPDC1* and *DEPDC1B*, NIH3T3 cells were transiently transfected with the two genes using GFP as a reporter. Forced expression of *DEPDC1* retarded spreading of the cells on fibronectin and induced disassembly of actin microfilaments and cell rounding in cells firmly attached. This finding suggested that *DEPDC1* may represent a novel RhoGAP protein with a unique domain organization and an interesting ability to translocate into the nucleus. The possibility that also *DEPDC1B* may be endowed with a similar RhoGAP activity is currently being investigated.