

IRB BARCELONA 2011 ANNUAL REPORT

Research Programmes

MOLECULAR MEDICINE

Raúl Méndez: Translational Control of Cell Cycle and Differentiation



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Highlights

- We have identified a new function for CPEB1 in nuclear processing of pre-mRNAs. CPEB-1 regulates in this manner hundreds of transcript enriched in genes related to proliferation and differentiation, thus providing coordinated gene regulation at the translational and pre-mRNA processing levels.
- We have determined that CPEB4 is ectopically expressed in pancreatic tumors and gliomas. We have shown that CPEB4 is essential for tumoral growth and vascularization and performed a genome-wide identification of CPEB4 targets in pancreatic tumours.

Publications

- Ortiz-Zapater E, Pineda D, Martínez-Bosch N, Fernández-Miranda G, Iglesias M, Alameda F, Moreno M, Eliscovich C, Eyra E, Real FX, Méndez R and Navarro P.

Key contribution of CPEB4-mediated translational control to cancer progression

Nat Med, **18**, 83-90 (2011)

Research projects

- Translational reprogramming of gene expression in Pancreatic Cancer: from mechanisms to therapy AICR Research Grants Association for International Cancer Research (AICR) 2011-2013. Principal investigator: Raúl Méndez
- Desvelando los circuitos de regulación génica definidos por la familia CPEB de proteínas de unión a RNA: de los mecanismos a las funciones biológicas. BFU2008-02373 Proyectos Investigación Fundamental Spanish Ministry of Science and Innovation (MICINN) 2010-2011. Principal investigator: Raúl Méndez
- RNAREG (Integrated approach to post-transcriptional regulation of gene expression and its role in human disease). CSD2009-00080 Consolider Spanish Ministry of Science and Innovation (MICINN) 2011-2014. Principal investigator: Raúl Méndez
- Control traduccional de l'expressió gènica SGR 2009 1436 Grup de Recerca reconegut de la Generalitat de Catalunya Agency for Administration of University and Research Grants (AGAUR) 2010-2013. Principal investigator: Raúl Méndez

Collaborations

- *An integrated approach to post-transcriptional regulation of gene expression and its role in human disease*, RNAREG consortium (Barcelona, Spain)
- *Role of CPEBs in angiogenesis*, Mercedes Fernandez , August Pi i Sunyer Biomedical Research Institute (IDIBAPS) (Barcelona, Spain)
- *Role of CPEBs in tumor development*. Pilar Navarro , IMIM (Hospital del Mar Research Institute) (Barcelona, Spain); Francisco X. Real , Spanish National Cancer Research Centre (Madrid, Spain)



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