

IRB BARCELONA 2011 ANNUAL REPORT

Research Programmes

ONCOLOGY

Angel R. Nebreda: Signalling and Cell Cycle



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Highlights

- We have described new essential roles of the p38 MAPK signalling pathway during mouse development. For example, cooperation between p38 α and p38 β is required for embryonic heart development.
- A collection of genes whose expression is controlled by p38 MAPK signalling in Ras-transformed cells has been identified. Approximately 10% of the genes that are negatively regulated by p38 MAPK contribute to EGF receptor signalling.
- We have established mouse models to study the role of p38 MAPK signalling in tumour development *in vivo*.

Publications

- Del Barco Barrantes I, Coya JM, Maina F, Arthur JS and Nebreda AR, **Genetic analysis of specific and redundant roles for p38 α and p38 β MAPKs during mouse development** Proc Natl Acad Sci U S A, **108**, 12764-9 (2011)
- Swat A, Dolado I, Igea A, Gomez-Lopez G, Pisano DG, Cuadrado A and Nebreda AR, **Expression and functional validation of new p38 α transcriptional targets in tumorigenesis** Biochem J, **434**, 549-58 (2011)

Research projects

- Understanding inflammation-associated tumorigenesis for the rational design of novel anti-cancer therapeutic strategies. (INFLA-CARE) 223151 FP7- Cooperation-Health 2009. European Commission (EC) 2009-2012. Principal investigator: Ángel R Nebreda
- La disfunción cerebral durante el envejecimiento, y su relevancia para la enfermedad de Alzheimer (BrainAge). CDS2010-00045 Consolider Spanish Ministry of Science and Innovation (MICINN) 2011-2015. Principal investigator: Ángel R Nebreda
- Regulación celular por la p38 α . MAPK BFU2010-17850. Proyectos Investigación Fundamental Spanish Ministry of Science and Innovation (MICINN) 2011-2013. Principal investigator: Ángel R Nebreda
- Fundación BBVA 2011-2015. Principal investigator: Ángel R Nebreda

Collaborations

- *Molecular mechanisms of metastasis*. Roger Gomis, IRB Barcelona (Barcelona, Spain)
- *Stress-induced p38 MAPK signalling*. Francesc Posas, Universitat Pompeu Fabra (Barcelona, Spain)
- *Signalling by p38 MAPKs in Drosophila*. Marco Milan, IRB Barcelona (Barcelona, Spain)



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