

# Dr Esther Castellano Sanchez

Barts  
Cancer Institute  
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## Research Interests

My main research areas are in cancer cell biology, lung cancer and pancreatic cancer, specifically in understanding the role of oncogenic Ras signalling in cancer development and in the interplay between tumour cells and its microenvironment.

My research group focuses on:

- Identification of signalling pathways that are activated during tumour progression and how the activation of PI3K by RAS regulates them with the aim of translating basic/fundamental discoveries into new therapeutic approaches.
- Role of Ras-PI3Kinase signalling in the stroma establishment, maturation and activity of the different stromal components in lung and pancreatic cancer
- Role of oncogenic Ras signalling in the tumour-stroma interactions in terms of cytokine production, growth factor secretion and metabolic symbiosis
- Role of Ras-PI3Kinase signalling in tumour associated macrophages (TAMs) recruitment, polarization and function within the tumour.

## Major Funders

- Barts Cancer Institute

## Contact Details

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## Recent Publications

- Murillo MM, Zelenay S, Nye E, **Castellano E**, Lassailly F, Stamp G, Downward J.: "RAS interaction with PI3K p110 $\alpha$  is required for tumor-induced angiogenesis". *J Clin Invest*. 2014 [Epub ahead of print]
- **Castellano E\***, Sheridan C\*, Zin, MT, Nye Emma, Spencer-Dene B, Diefenbacher, ME, Moore C, Kumar M, Murillo MM, Gronroos E, Lassailly F, Stamp G, Downward J: "Requirement for interaction of PI 3-kinase p110 $\alpha$  with RAS in lung tumor maintenance". *Cancer Cell*. 2013 Nov 11;24(5):617-30
- Iborra S, Soto M, Stark-Aroeira L, **Castellano E**, Alarcón B, Alonso C, Santos E, Fernández-Malavé E.: "H-ras and N-ras are dispensable for T-cell development and activation but critical for protective Th1 immunity". *Blood*. 2011 May 12;117(19):5102-11
- **Castellano E** and Santos E: "Functional specificity of ras isoforms: so similar but so different". *Genes Cancer*. 2011 Mar;2(3):216-31
- **Castellano E** and Downward J: "RAS Interaction with PI3K: More Than Just Another Effector Pathway". *Genes Cancer*. 2011 Mar;2(3):261-74
- **Castellano E**, Guerrero C, Núñez A, De Las Rivas J, Santos E: "Serum-dependent transcriptional networks identify distinct functional roles for H-Ras and N-Ras during initial stages of the cell cycle". *Genome Biol*. (2009) Nov 6;10(11)
- **Castellano E**, De Las Rivas J, Guerrero C, Santos E: "Transcriptional networks of knockout cell lines identify functional specificities of H-Ras and N-Ras: Significant involvement of N-Ras in biotic and defense responses". *Oncogene*. (2007) Feb 8;26(6):917-33



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