

# CURRICULUM VITAE

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**Name:** MATTHIAS DROSTEN

Present position: Investigator  
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## Research appointments

**2008 - present** Investigator (Staff Scientist), Experimental Oncology Group, Spanish National Cancer Centre (CNIO), Madrid, Spain

2020 *Científico titular* at CSIC (in expectation)

2004 - 2008 Postdoctoral fellow, Experimental Oncology Group, Spanish National Cancer Centre (CNIO), Madrid, Spain (Group leader: Dr. Mariano Barbacid)

## Academic formation

1999 – 2003 **Ph.D. (Dr. rer. nat.)**, University of Essen Medical School, Department of Molecular Biology (IMB), Essen, Germany (Supervisor: Prof. Dr. Dr. Brigitte M. Pützer)

1993 – 1999 **Degree in Biology (Dipl.-Biol.)**, Ruhr-University of Bochum, Germany

## Selected publications

1. Sanclemente M, Nieto P, García-Alonso S, Fernández-García F, Esteban-Burgos L, Guerra C, **Drosten M**, Caleiras E, Martínez-Torrecuadrada J, Santamaría D, Musteanu M, Barbacid M (2021) RAF1 kinase activity is dispensable for KRAS/p53 mutant lung tumor progression. ***Cancer Cell***, 39 (3), 294-296.
2. Lechuga CG, Salmón M, Paniagua G, Guerra C, Barbacid M, **Drosten M** (2021) RASless MEFs as a tool to study RAS-dependent and RAS-independent functions. ***Methods Mol Biol***, in press.
3. Esteban-Burgos L, Wang H, Nieto P, Zheng J, Blanco-Aparicio C, Varela C, Gómez-López G, Fernández-García F, Sanclemente M, Guerra C, **Drosten M**, Galán J, Caleiras E, Martínez-Torrecuadrada J, Fajas L, Peng SB, Santamaría D, Musteanu M, Barbacid M (2020) Tumor regression and resistance mechanisms upon CDK4 and RAF1 inactivation in Kras/p53 mutant lung adenocarcinomas. ***Proc Natl Acad Sci USA***, 117 (39), 24415-24426.
4. **Drosten M\***, Barbacid M\* (2020). Targeting the MAPK pathway in KRAS-driven tumors. ***Cancer Cell***, 37 (4), 543-550. [\* corresponding author]
5. Vitos-Faleato J, Real SM, Gutierrez-Prat N, Villanueva A, Llonch E, **Drosten M**, Barbacid M, Nebreda AR (2020). Requirement for epithelial p38 $\alpha$  in KRAS-driven lung tumor progression. ***Proc Natl Acad Sci USA***, 117 (5), 2588-2596.
6. Blasco MT, Navas C, Martín-Serrano G, Graña-Castro O, Lechuga CG, Martín-Díaz L, Djurec M, Li J, Morales-Cacho L, Esteban-Burgos L, Perales-Patón J, Bousquet-Mur E, Castellano E, Jacob HKC, Cabras L, Musteanu M, **Drosten M**, Ortega S, Mulero F, Sainz Jr B, Dusetti N, Iovanna J, Sánchez-Bueno F, Hidalgo M, Khiabani H, Rabadán R, Al-Shahrour F, Guerra C, Barbacid M (2019). Complete regression of advanced pancreatic ductal adenocarcinomas upon combined inhibition of EGFR and c-RAF. ***Cancer Cell***, 35 (4), 573-587.

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7. Mayor-Ruiz C, Olbrich T, **Drosten M**, Lecona E, Vega-Sendino M, Ortega S, Dominguez O, Barbacid M, Ruiz S, Fernandez-Capetillo O (2018). ERF deletion rescues RAS deficiency in mouse embryonic stem cells. ***Genes Dev***, 32 (7-8), 568-576.
8. Gao Y, Chang MT, McKay D, Na N, Zhou B, Yaeger RD, Torres NM, Muniz K, **Drosten M**, Barbacid M, Caponigro G, Stuart D, Moebitz H, Solit DB, Abdel-Wahab OI, Taylor BS, Yao Z, Rosen N (2018). Allele-specific mechanisms of activation of MEK1 mutants determine their properties. ***Cancer Discov***, 8 (5), 648-661.
9. Simón-Carrasco L, Jiménez G\*, Barbacid M, **Drosten M\*** (2018). The Capicua tumor suppressor: a gatekeeper of Ras signaling in development and cancer. ***Cell Cycle*** 17 (6), 702-711. [\* corresponding author]
10. Sanclemente M, Francoz S, Esteban-Burgos L, Bousquet-Mur E, Lopez-Casas PP, Hidalgo M, Guerra C, **Drosten M**, Musteanu M, Barbacid M (2018). c-Raf ablation induces regression of advanced Kras/Trp53 mutant lung adenocarcinomas by a mechanism independent of MAPK signaling. ***Cancer Cell*** 33 (2), 217-228.
11. **Drosten M\***, Guerra C\*, Barbacid M\* (2017). Genetically engineered mouse models of K-Ras-driven lung and pancreatic tumors: validation of therapeutic targets. ***Cold Spring Harb Perspect Med***, a031542. [\* corresponding author]
12. Simón-Carrasco L, Graña O, Salmón M, Jacob HKC, Gutierrez A, Jiménez G, **Drosten M\***, Barbacid M\* (2017). Inactivation of Capicua in adult mice causes T cell lymphoblastic lymphoma. ***Genes Dev*** 31 (14), 1456-1468. [\*senior author]
13. Yao Z, Yaeger R, Rodrik-Outmezguine VS, Tao A, Torres NM, Chang MT, **Drosten M**, Zhao H, Cecchi F, Hembrough T, Michels J, Baumert H, Miles L, Campbell NM, de Stanchina E, Solit DB, Barbacid M, Taylor BS, Rosen N (2017). Tumors with class 3 BRAF mutants are RAS dependent and sensitive to its inhibition. ***Nature*** 548 (7666), 234-238.
14. Forés M, Simón-Carrasco L, Ajuria L, Samper N, González-Crespo S, **Drosten M**, Barbacid M, Jimenez G (2017). A new mode of DNA binding distinguishes Capicua from other HMG-box factors and explains its mutation patterns in cancer. ***PLoS Genet*** 13 (3), 31006622.
15. **Drosten M\***, Simón-Carrasco L, Hernández-Porras I, Lechuga CG, Blasco MT, Jacob HKC, Fabbiano S, Potenza N, Bustelo XR, Guerra C, Barbacid M\* (2017). H-Ras and K-Ras oncoproteins induce different tumor spectra when driven by the same regulatory sequences. ***Cancer Res*** 77 (3), 707-718. [\* corresponding author]
16. **Drosten M\***, Sum EYM, Lechuga CG, Simón-Carrasco L, Jacob HKC, Garcia-Medina R, Huang S, Beijersbergen RL, Bernards R, Barbacid M\* (2014). Loss of p53 induces cell proliferation via Ras-independent activation of the Raf/Mek/Erk signaling pathway. ***Proc Natl Acad Sci USA*** 111 (42), 15155-15600. [\* corresponding author]
17. **Drosten M\***, Lechuga CG, Barbacid M\* (2014). Ras signaling is essential for skin development. ***Oncogene*** 33 (22), 2857-2865. [\* corresponding author]
18. **Drosten M**, Dhawahir A, Sum EYM, Urosevic J, Lechuga CG, Esteban LM, Castellano E, Guerra C, Santos E, Barbacid M (2010). Genetic analysis of Ras signaling pathways in cell proliferation, migration and survival. ***EMBO J*** 29 (6), 1091-1104.