

Xavier GIDROL Seminar at TOPIIM 2010

TOPIIM 2010 - Imaging Systems Biology

KINOME-TARGETED siRNA SCREEN IDENTIFIES KINASE REGULATING THE DIFFERENTIATION/PROLIFERATION BALANCE IN PROSTATE CANCER CELLS

Xavier Gidrol¹, Valérie Haydont¹, Alexander Papine⁴, Françoise Soussaline⁴, Jesus Angulo⁵, Fernand Meyer⁵, Jean Stawiaski⁵, Christian Lajaunie^{2,3}, Philippe Rouillier^{2,3}, Jean-Philippe Vert^{2,3}

¹CEA, DSV, IRTSV, Grenoble, France ; ²Mines ParisTech, CBIO, Fontainebleau, France; ³Institut Curie, INSERM U900, Paris, France; ⁴IMSTAR, Paris, France; ⁵Mines ParisTech, CMM, Fontainebleau, France

We developed cell microarrays on extracellular matrix domain to perform massively parallel extinction of genes with siRNA and systematic screen kinase inhibition on cell lines and primary cultures of prostate cancer cells. We quantified the effect of the loss of each kinase on cell differentiation and proliferation, using novel high-throughput imaging and statistical analysis. This functional screen, which produced a short list of new promising targets and siRNA currently under investigation, demonstrates that cell lines used as models for prostate tumors often displayed a different phenotypic outcome than tumor cells obtain from patients. Furthermore cell lines were less prone than healthy cells to siRNA-dependent systematic perturbation. Indeed functional redundancy in prostate cancer cells lines seemed to increase their robustness. Our results suggest that prostate cancer can be viewed as a robust system and open new perspective on therapeutic approaches.

TOPIIM stands for 'hot TOPics in molecular IMaging'. The format is a medium scale one-week workshop organized by the European Society for Molecular Imaging (ESMI) and the European Network of Excellence DiMI. TOPIIM is an annual event, aiming at covering a different red-hot aspect of research in Molecular Imaging every year.

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