

Title: 1HXURSLQLQ NQRFNRXW DQG UHVFXH FRQÀUPV LW  
MDA-MB-231 breast cancer cells

Sirin A Adham

6XOWDQ 4DERRV 8QLYHUVLW\ 2PDQ

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Breast Cancer (BC) metastasis remains a leading cause of female mortality. Neuropilin-1 (NRP-1) is a glycoprotein receptor that plays ligand-dependent roles in BC. Clinical studies indicate its correlation with metastatic disease; however, its functional role in BC metastasis remains uncertain. CRISPR-Cas9 was used to knockout the NRP-1 gene in MDA-MB-231 BC cells and the effect on metastasis were determined using an orthotopic mouse engraftment model. NRP-1 expression in knockout cells was rescued using a recombinant cDNA with a silent mutation in the sgRNA target-adjacent PAM sequence. Differentially expressed genes between NRP-1 knockout and control cells were determined using whole-transcriptome sequencing and validated using real-time

3&5 153 .2 FHOOV VKRZHG D SURQRXQFHG UHGXFWRQ LQ WKH PHWDVWDV  
GDWD UHYHDOHG WKDW 3, . DQG (& 0 UHFHSWRU LQWHUDEFWRQV ZHUH DP  
UHGXFWRQ LQ PHWDVWDV D3 and Ck3 on F-1 had genes UC120 and FN1 and up-regulation of metas  
WDVLV VXSSUHVVRU JHQHV \$&95/ DQG \*3; LQ 153 .2 ZHUH GHWHFWHG 7  
153 LQ %& PHWDVWDVLV VXSSRUWLQJ IXUWKHU H[SORUDWLRQ RI 153 D

### Biography

Sirin A Adham Graduated from the University of Leon, Spain, in 2002 with a PhD degree in Biological Sciences/molecular biology technology. She worked at the Department of Biology, University of Waterloo, Canada as a postdoctoral fellow on a project funded by Genome Canada from 2003-2006. From 2006-2009 she joined the Department of Biomedical Sciences at the University of Waterloo.

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'HSDUWPHQW RI %LRORJ\ &ROOHJH RI 6FLHQFH 648 2PDQ 6KH ZDV SURF  
is focused on Cancer Molecular Biology to investigate the molecular basis of drug resistance in breast cancer. She has published in the Journal of Cellular Biochemistry, Molecular Cell Biology, and Cancer Research. She is a member of the Canadian Cancer Research Council (TRC) and the international Terri Fox foundation fund. Finally, she built her cancer research laboratory and is currently a senior research scientist at the University of Waterloo.  
SHUYLVHG 3K' DQG 06F VWXGHQWV DW WKH 'HSDUWPHQW RI %LRORJ\ 64