Accepted Manuscript

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PII: S0304-3835(15)00325-0
DOI: http://dx.doi.org/doi:10.1016/j.canlet.2015.05.004
Reference: CAN 12400

To appear in: *Cancer Letters*

Received date: 18-2-2015
Revised date: 10-4-2015
Accepted date: 4-5-2015

Please cite this article as: Olga Piskareva, Harry Harvey, John Nolan, Ross Conlon, Leah Alcock, Patrick Buckley, Paul Dowling, Finbarr O'Sullivan, Isabella Bray, Raymond L. Stallings, The development of cisplatin resistance in neuroblastoma is accompanied by epithelial to mesenchymal transition *in vitro*, *Cancer Letters* (2015), http://dx.doi.org/doi:10.1016/j.canlet.2015.05.004.

The development of cisplatin resistance in neuroblastoma is accompanied by epithelial to mesenchymal transition *in vitro*

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ABSTRACT

Neuroblastoma is a challenging childhood malignancy, with a very high percentage of patients relapsing following acquisition of drug resistance, thereby necessitating the identification of mechanisms of drug resistance as well as new biological targets contributing to the aggressive pathogenicity of the disease. In order to investigate the molecular pathways that are involved with drug resistance in neuroblastoma, we have developed and characterised cisplatin resistant sublines SK-N-ASCis24, KellyCis83 and CHP-212Cis100, integrating data of cell behaviour, cytotoxicity, genomic alterations and modulation of protein expression. All three cisplatin resistant cell lines demonstrated cross resistace to temozolomide, etoposide and irinotecan, all of which are drugs in re-initiation therapy. Array CGH analysis indicated that resistant lines have acquired additional genomic imbalances. Differentially expressed proteins were identified by mass spectrometry and classified by bioinformatics tools according to their molecular and cellular functions and their involvement into biological