

Title: Methylation Regulation of NCALD and Its Functional Mechanism in Platinum Resistance of Ovarian Cancer

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Abstract

Chemoresistance is a major unsolved clinical obstacle in the treatment of ovarian cancer. Low expression of NCALD(neurocalcin delta) in ovarian cancer patients predicts chemoresistance and poor prognosis. However, the molecular mechanism of NCALD in ovarian cancer and its relationship with chemotherapy outcomes is unclear. Both NCALD targeted demethylation and 5-Aza-dC-mediated broad-spectrum demethylation can restore the expression of NCALD. Both in vivo and in vitro experiments showed that NCALD targeted demethylation and 5-Aza-dC-mediated broad-spectrum demethylation can reverse the chemotherapy sensitivity of drug-resistant cells to cisplatin by inducing apoptosis through PARP and caspase-9. [Our study clarified the molecular mechanism of NCALD methylation involved in platinum-based chemotherapy resistance in ovarian cancer, and provide therapeutic targets for clinical prevention and treatment of ovarian cancer chemotherapy resistance.](#)