TITLE: Treating Cancers with Drugs Targeting Creb3L1
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TECHNOLOGY: Biologicals
UTSD: 2535

SUMMARY: CREB3L1 is a biomarker for identifying cancer cells sensitive to doxorubicin (daunomycin). The biomarker is used in diagnostics and screening; for example, to indicate suitability of doxorubicin chemotherapy and for pharmacological screens for agents that act through the same pathway. The current invention establishes a crucial role for CREB3L1 in mediating inhibition of cell proliferation in response to doxorubicin-induced synthesis of ceramide. The concentration of doxorubicin required to proteolytically activate CREB3L1 is within clinically relevant concentration ranges found in the serum of patients treated with the drug. These findings indicate that the clinical response to doxorubicin is determined by the level of CREB3L1 produced in tumor cells. Thus, measuring CREB3L1 expression in tumor cells is useful in identifying cancer patients who are most likely to benefit from doxorubicin treatment.

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