

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Event-free survival, overall survival and hazard ratio for patients with *ATRX*-mutant neuroblastoma.

File Name: Supplementary Data 2

Description: Characteristics of cell lines and orthotopic patient-derived xenografts (O-PDX) used in this study.

File Name: Supplementary Data 3

Description: Quantitation of timing between cell death from the previous cytokinesis for SKNMM^{MYCN} + doxycycline.

File Name: Supplementary Data 4

Description: Xenogen signal intensity of in-vivo orthotopic xenografts from SKNMM^{MYCN} and SKNMM^{CONT} cells.

File Name: Supplementary Data 5

Description: Analysis of differentially methylated regions (DMRs) in *MYCN*-amplified relative to *MYCN* non-amplified neuroblastoma.

File Name: Supplementary Data 6

Description: ChromHMM and core regulatory circuit (CRC) analyses of neuroblastoma.

File Name: Supplementary Data 7

Description: Gene expression and pathway analyses of *ATRX*-mutant cell lines SKNMM^{MYCN} and U2OS^{MYCN} 4 days after *MYCN* induction.

File Name: Supplementary Data 8

Description: Quantification of ¹³C-glucose-derived and ¹³C-glutamine-derived metabolites in *ATRX*-mutant neuroblastoma cells and medium 4 days after *MYCN* induction.

File Name: Supplementary Data 9

Description: Dose response curve of drug screenings in *ATRX*-mutant neuroblastoma cells with *MYCN* induction.

File Name: Supplementary Data 10

Description: Gene expression analysis of neuroblastoma cell lines treated with retinoic acid (RA).

File Name: Supplementary Data 11

Description: Pathway analysis of H3.3 peaks depleted in *ATRX*-mutant neuroblastoma cells that correlate with ChromHMM.