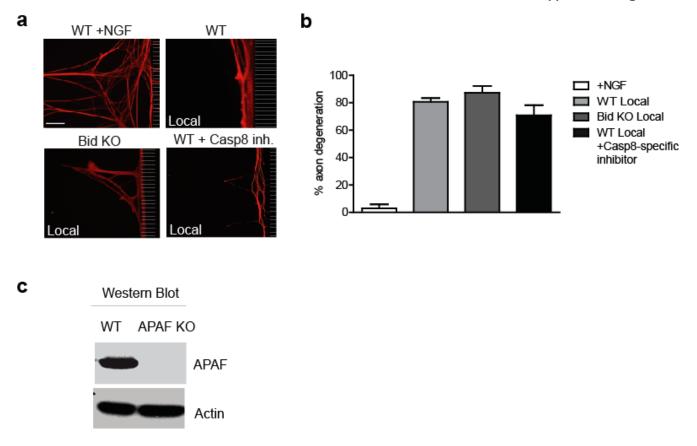


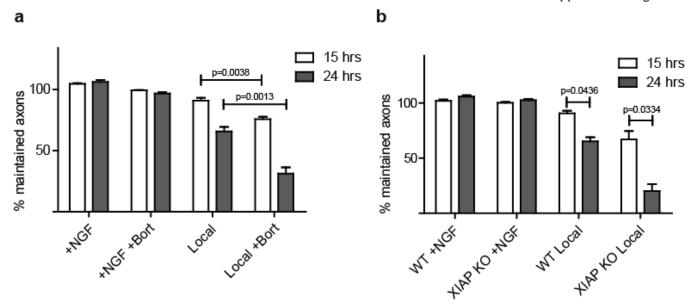
Supplementary Figure S1: Casp6 activation in axons is selective to NGF deprivation.

WT and Casp6-deficient neurons (5 DIV) were locally deprived and probed for cleaved Casp6 and tubulin. Scale bar,  $50~\mu m$ .



## Supplementary Figure S2: The extrinsic pathway is not involved in axon-selective degeneration induced by local deprivation.

(a) WT, Bid-deficient, and Casp8-inhibited neurons (5 DIV) were locally deprived and probed for tubulin. NGF-maintained WT neurons served as controls. Scale bar, 50 μm. (b) Quantification of the conditions shown in (a). All data represent the mean ± s.e.m. (n=3). The difference in the percentage of axon degeneration is significant (p<0.005) for all treatments compared to NGF-maintained control neurons. (c) Western blot for Apaf-1 using lysates made from mouse embryonic fibroblasts obtained from WT and Apaf-1-deficient (E13) mice. Apaf-1-deficient mice are complete nulls.



## Supplementary Figure S3: Timecourse of axon degeneration in proteasome-inhibited and XIAP-deficient neurons during local deprivation.

(a) Quantification of maintained axon length over time during local deprivation with and without the proteasome inhibitor Bortezomib. NGF-maintained neurons (also with and without Bortezomib) served as controls. (b) Quantification of maintained axon length over time during local deprivation for WT and XIAP-deficient neurons. NGF-maintained neurons served as controls. Data represent the mean  $\pm$  s.e.m. (n=3).