Supplementary Information

Supplementary Methods

**Generation of mPar6cΔCRIB.** The sequence for the CRIB domain of mouse mPar6c (amino acids 132-145) was deleted and replaced by an EcoRI restriction site by PCR. Using the primers AGGATCCGCC AGCCCGCAGA GGACTCCG, AGAATTCTAA CAAGGGTGCC CTGGTGC, ATCTAGAGTC AGAGGCTGAA TCCGCTAAC, and AGAATTTCGAT GTGGACCTAC TACCTGAGACCC the sequences for amino acids 1 - 131 and 146 - 346 of mPar6c were amplified and cloned into a modified pBK-CMV (Clontech) that introduced a N-terminal myc-tag. The cDNA for mouse mPar6c was cloned into the same vector to generate myc-mPar6c.

**Determination of neurite length.** The length of minor neurites was determined after staining the cells with rhodamine-phalloidin using the UTHSCSA ImageTool v3.00 software.