Legends to supplemental Figures

Supplemental Figure 1. Expression of TBCE in Schwann cells of wildtype and *pmn* mice

A. Co-immunolabeling for TBCE (in green) and myelin basic protein (MBP, in red) in a cross section of the phrenic nerve. Note TBCE expression in cell bodies of Schwann cells but not in their myelin sheets. Scale bar: 20 µm.

B-C. Co-immunolabeling for TBCE (in red) and the Schwann cell marker S-100 (in blue) in the sciatic nerve of a 25-day old wildtype *Thy1*-YFP line 16 mouse (B) and a *pmn Thy1*-YFP line 16 mouse (C). Scale bar: 5 µm.

D-E. Co-immunolabeling for TBCE (in green) and the Golgi marker GM130 (in red) in the cervical ventral root of a 25-day-old wildtype mouse (D) and a *pmn* litter mouse (E). Note accumulation of TBCE at the Golgi apparatus of Schwann cells. Scale bar: 10 µm.

Supplemental Figure 2. Expression of tagged TBCE constructs in motor neurons

A. Confocal images of a primary motor neuron at 1 DIV after transfection with a GFP-TBCE plasmid. GFP-tagged TBCE accumulates at the Golgi apparatus when expressed at low levels. The Golgi apparatus is immunolabeled for GM130, the cell nucleus is stained with DAPI. Scale bar: 10 µm.

B. Confocal images of NSC34 motor neurons transfected with GFP or GFP-TBCE expression plasmids and immunolabeled at 2 DIV for GM130. Neurons expressing high levels of GFP-TBCE (arrowheads) bear a fragmented and dispersed Golgi apparatus as compared to GFP-expressing neurons (arrows).

C. Expression of GFP-TBCE in NSC34 motor neurons causes loss of β_{III}-tubulin and disorganization of microtubules. GFP has no such effect. Note that TBCE does not associate with the Golgi apparatus when over-expressed at high level.

D. Diagram showing Golgi dispersal and microtubule loss after TBCE overexpression. Golgi alterations were observed in 72 % and 74 % of cells expressing GFP-TBCE or FLAG-TBCE, respectively. Golgi alterations in GFP expressing cells (22 % of transfected) probably reflect Golgi breakdown during mitosis (Colanzi et al., 2003). TBCE overexpression induced microtubule loss in a significant fraction of cells but did not affect Tau expression. Asterisks: $p < 0.01$ as assessed by students t-test.

Reference

Colanzi A, Suetterlin C, Malhotra V (2003) Cell-cycle-specific Golgi fragmentation: how and why? Curr Opin Cell Biol 15:462-467.