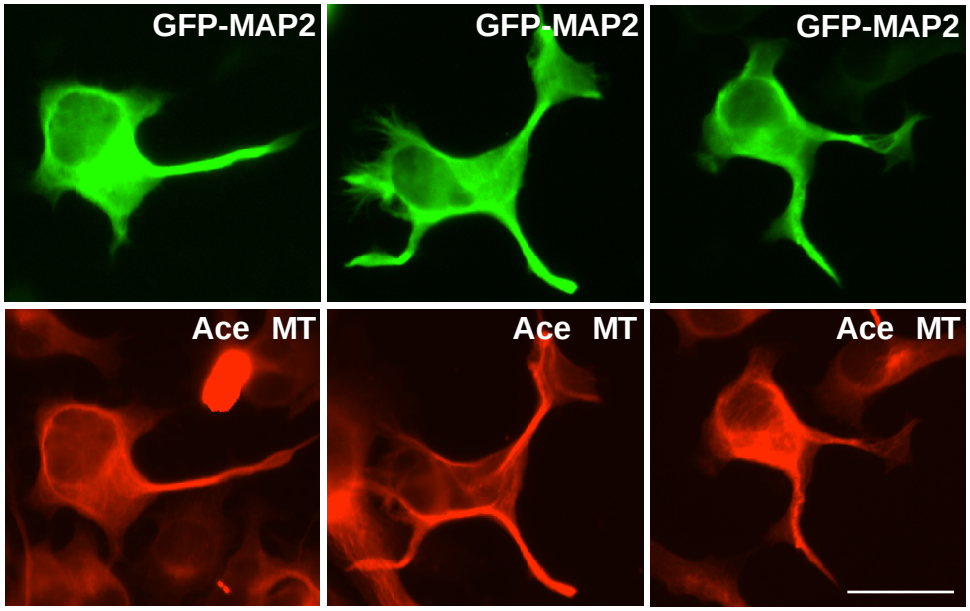
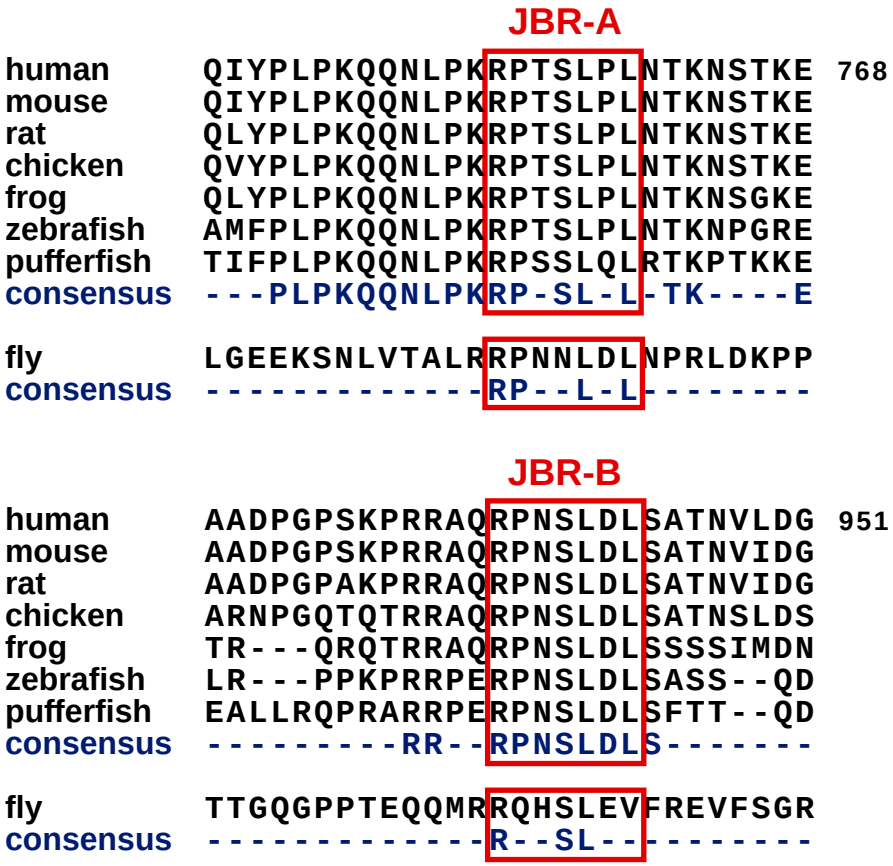
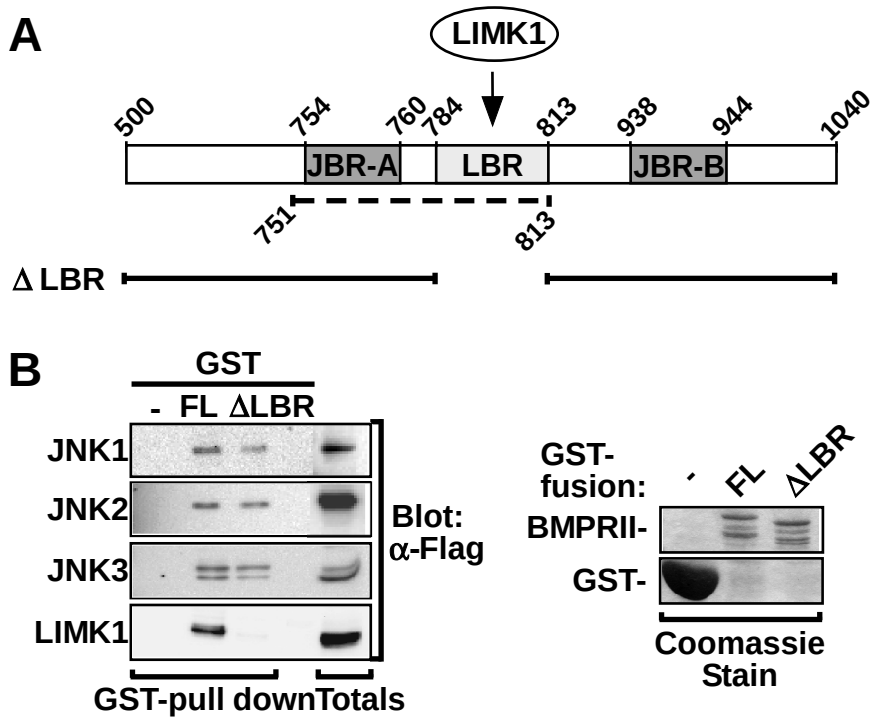


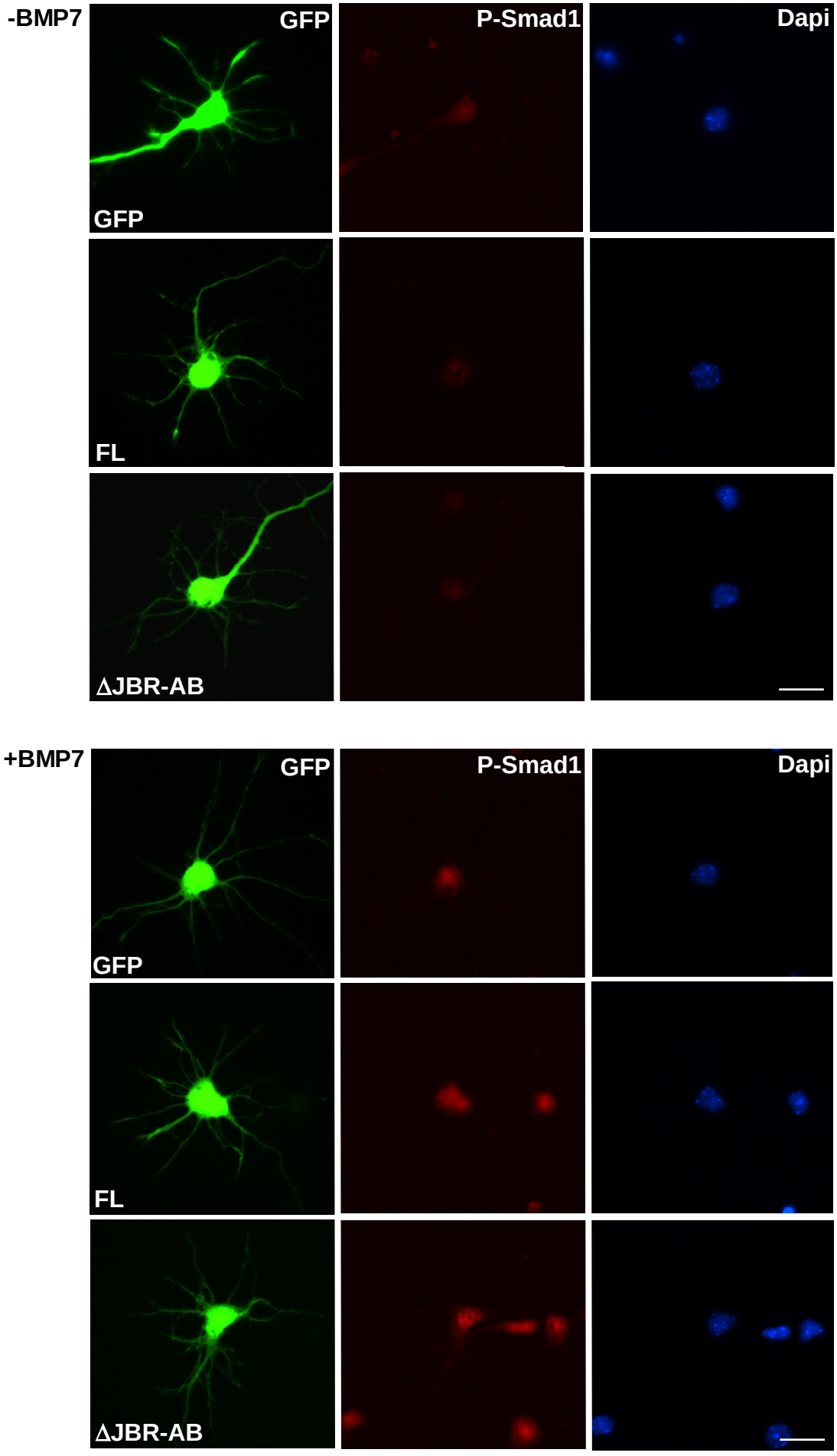
Supplementary Figure 1. MAP2-induced protrusions contain stable microtubules. NIE115 cells transfected with MAP2-GFP and stable microtubules were visualized by immunoflourescence microscopy using antibodies to acetylated (Ace MT) Tubulin. Images of three representative experiments are shown. Scale bar, 50 μm.



Supplementary Figure 2. Multiple alignment of human BMPRII with various homologs. Alignment of human BMPRII with mouse, rat, chicken, frog, zebrafish, pufferfish and fly homologs. The positions of amino acids in the human protein are indicated. Red boxes represent JBR-A and JBR-B. The consensus sequences including and excluding fly are shown in blue. Dashes indicate gaps introduced to maintain optimal alignment as previosly described in Wong, W.K., Morse, J.H., Knowles, J.A. (2006). Evolutionary conservation and mutational spectrum of BMPR2 gene. Gene 368, 84-93.



Supplementary Figure 3. JNK binding is retained upon deletion of LBR on BMPRII. (A) A schematic representation of GST fusion construct of the BMPRII tail lacking the newly refined LBR is shown. Dashed line below BMPRII tail schematic indicates the previously defined LBR. **(B)** COS-1 cells were transiently-transfected with Flag-JNK1,2,3 or LIMK1-Flag, and cell lysates were incubated with bacterially-expressed GST fusion proteins. The interaction was visualized by anti-Flag immunoblotting. Levels of GST fusion proteins were confirmed by Coomassie blue staining (right). Note that deletion of the LBR abrogated LIMK1 binding, while JNK1, 2 and 3 retained association with the BMPRII tail.


-BMP7
GFP
P-Smad1
Dapi
GFP
FL
ΔJBR-AB
+BMP7
GFP
P-Smad1
Dapi
GFP
FL
ΔJBR-AB

Supplementary Figure 4. Deletion of JBR-AB on BMPRII does not impair canonical Smad signalling. Primary cortical neurons were infected with adenoviruses encoding GFP empty vector, BMPRII full length (FL), or BMPRII ΔJBR-AB and stimulated with BMP7 for 60 min. The localization of phosphorylated Smad1 in GFP expressing cells was visualized by immunoflourescence microscopy using phospho-Smad1,5,8 primary antibody and Alexa Fluor 546-conjugated secondary antibody. Nuclei were stained using DAPI. Scale bar, 20 μm.