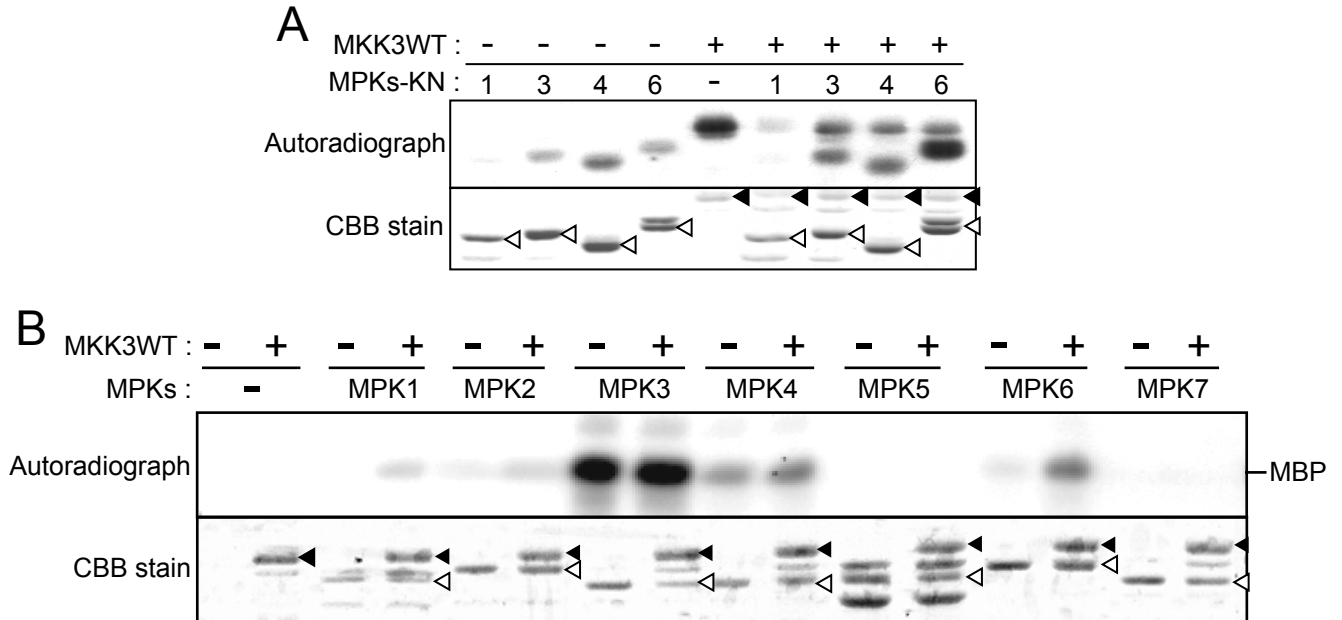


Supplemental Figure 1. *in vitro* activation assay of MKKs.



(A) Autophosphorylation of recombinant MPKs and MKK3 proteins, and phosphorylation of MPKs by MKK3. Affinity-purified inactive GST-MPKs (MPKs-KN) and GST-MKK3 (MKK3WT) were expressed in *E. coli*. MKK3WT (1 μ g) was incubated each inactive MPK (1 μ g) in the kinase reaction mixture, and aliquots of the samples were separated on SDS-PAGE and subjected to autoradiography. A Coomassie stain of the MPKs-KN (white arrowhead) and MKK3WT (black arrowhead) are shown in the lower panel.

(B) Specific activation of MPK6 by MKK3. MKK3WT (1 μ g) was incubated with (+) or without (-) each MPK (1 μ g) in the kinase reaction mixture with a MBP as a substrate, and aliquots of the samples were separated on SDS-PAGE and subjected to autoradiography. A CBB stain of the MPKs (white arrowhead) and MKK3WT (black arrowhead) are shown in the lower panel.