



Figure S4 Alignment of MKK-4 homologs with *mkk-4(lf)* alleles suppressing *rpm-1(lf)*. The alignment was obtained by the ClustalW multiple-alignment program. The direct ortholog of *C. elegans* MKK-4 in mammals is MKK4 but mice have three other paralogs, MKK7, MKK3 and MKK6. The positions of nonsense (red) and missense (blue) mutations isolated as *rpm-1(lf)* suppressors in our study are shown above the sequences. Identical and similar residues are highlighted in black and gray, respectively. Kinase domain, based on UniProt, was shaded in yellow. The conserved ATP binding site is shown as a black arrowhead above the sequences. The conserved catalytic loop and activation segment are underlined in green. Species are *Ce*: *Caenorhabditis elegans*; *Dm*: *Drosophila melanogaster*; *Mm*: *Mus musculus*. Accession numbers in UniProt are *Ce* MKK-4: Q20347; *Dm* MKK4: O61444; *Mm* MKK4: P47809; *Mm* MKK7: Q8CE90-2; *Mm* MKK6: P70236; *Mm* MKK3: O09110.