

Supplemental Figure 1. Critical interaction sites for three PrP^{Sc} prions. Alignment of the PrP amino acid sequences from bank vole together with mouse RML (C57BL/6 mice, GenBank accession M18070), mouse 87V (VMDK mice, GenBank accession M18071), and elk CWD (GenBank accession AF016227) prions shows amino acid differences among the prions. Residues that differ from the bank vole sequence are indicated in red. Most critical residues for conversion by each prion are located within or adjacent to steric zipper segments or predicted zipper segments (RosettaDesign), indicated by bars above the sequence: red (RML), green (87V) and blue (CWD). PrP residues 1-22 and 230-254 are not shown as they are cleaved during PrP^C processing and trafficking to the plasma membrane.

Supplemental Figure 2. Quantitative analysis of unseeded PrP substrates. Representative immunoblot shows no proteinase K (PK)-resistant PrP of unseeded PrP^C substrates following PMCA.

Supplemental Figure S1

Bank vole
Mouse RML
Mouse 87V
Eik CWD

23 56 97 100 3F4 epitope

KKRPKPGG-WNTGGSRYPGQGSPPGNRYPPQGGG-TWGQPHGGGWGQPHGGGWGQPHGGGWGQPHGGG-WGQGGGTHNQWNKPSKPKTNMKHVAGAAAAGAVVGGLG
KKRPKPGG-WNTGGSRYPGQGSPPGNRYPPQGG-TWGQPHGGGWGQPHGGSWGQPHGGSWGQPHGGG-WGQGGGTHNQWNKPSKPKTNLKHVAGAAAAGAVVGGLG
KKRPKPGG-WNTGGSRYPGQGSPPGNRYPPQGG-TWGQPHGGGWGQPHGGSWGQPHGGSWGQPHGGG-WGQGGGTHNQWNKPSKPKTNFKHVAGAAAAGAVVGGLG
KKRPKPGGGWNTGGSRYPGQGSPPGNRYPPQGGG-GWGQPHGGGWGQPHGGGWGQPHGGGWGQPHGGGGWGQ-GGTHSQWNKPSKPKTNMKHVAGAAAAGAVVGGLG

138 143 145 155 166 170 174 184 203 205 215 219-20 225 227-230

Bank vole
Mouse RML
Mouse 87V
Eik CWD

GYMLGSAMSRPMIHFGNDWEDRYRENMNRYPNQVYYRPVDQYNNQNNFVHDCVNIITIKQHTVTTTTTKGENFTETDVKMMERVVEQMCVTQYQKESQAYYEGRS
GYMLGSAMSRPMIHFGNDWEDRYRENMYRYPNQVYYRPVDQYSNQNNFVHDCVNIITIKQHTVTTTTTKGENFTETDVKMMERVVEQMCVTQYQKESQAYYDGRR
GYMLGSAMSRPMIHFGNDWEDRYRENMYRYPNQVYYRPVDQYSNQNNFVHDCVNIITIKQHTVTTTTTKGENFTETDVKMMERVVEQMCVTQYQKESQAYYDGRR
GYMLGSAMSRPLIHFGNDYEDRYRENMYRYPNQVYYRPVDQYNNQNTFVHDCVNIITVKQHTVTTTTTKGENFTETDIKMMERVVEQMCITQYQRESEAYYQRGS

Supplemental Figure S2

