Fig. S1. Sensory adaptation profiles of Tsr control cable mutants.

Plasmids expressing the indicated mutant forms of Tsr were analyzed in FRET reporter strain UU2700 (R^+ B^+). Traces show the YFP/CFP ratio over the course of serine addition at the $K_{1/2}$ concentration previously determined for that receptor (black triangles) and subsequent serine removal (white triangles).

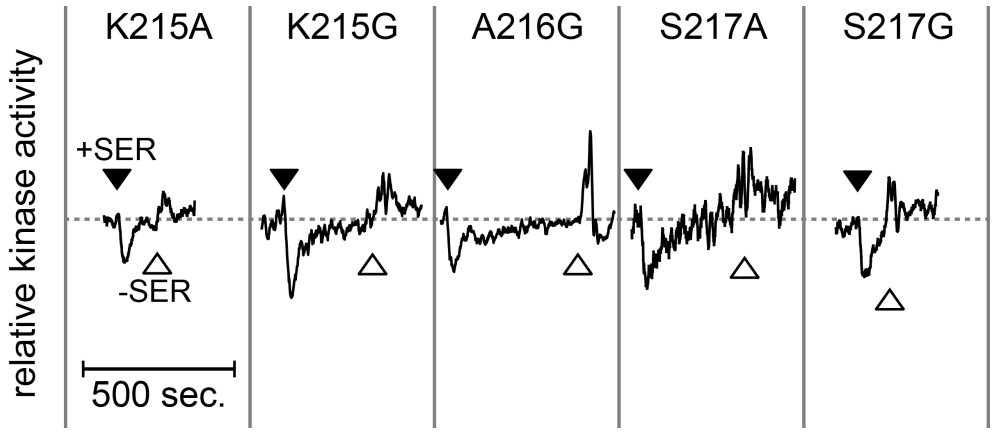

Fig. S2. Chemotaxis phenotypes of Tsr control cable mutants.

Plasmids expressing the indicated mutant forms of Tsr were analyzed in strain UU2612 (R^+ B^+). Plates were photographed after incubation at 30°C for 18 hours.

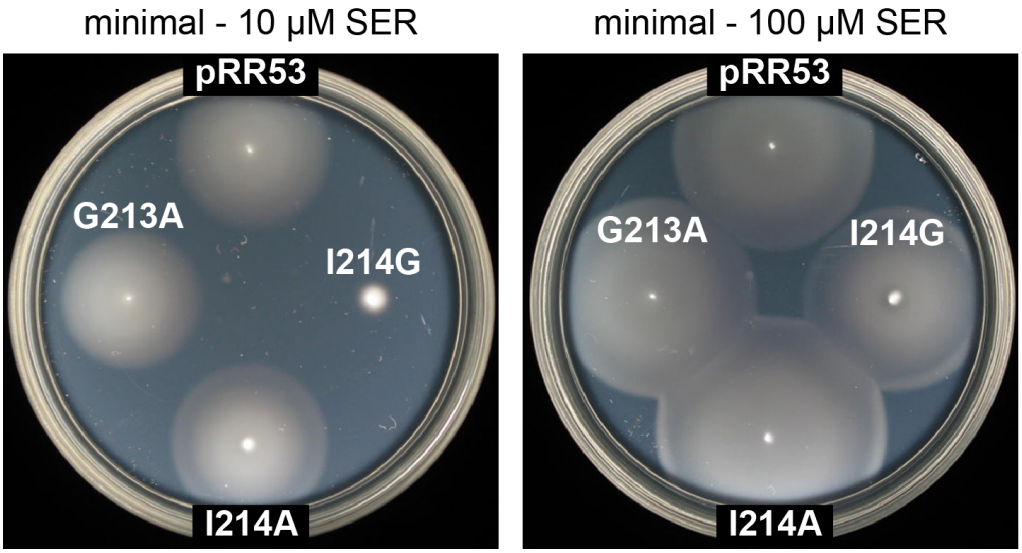

Fig. S3. Chemotaxis phenotypes of Tsr control cable mutants.

Plasmids expressing the indicated mutant forms of Tsr were analyzed in strain UU2612 (R^+ B^+). Plates were photographed after incubation at 30°C for 18 hours.

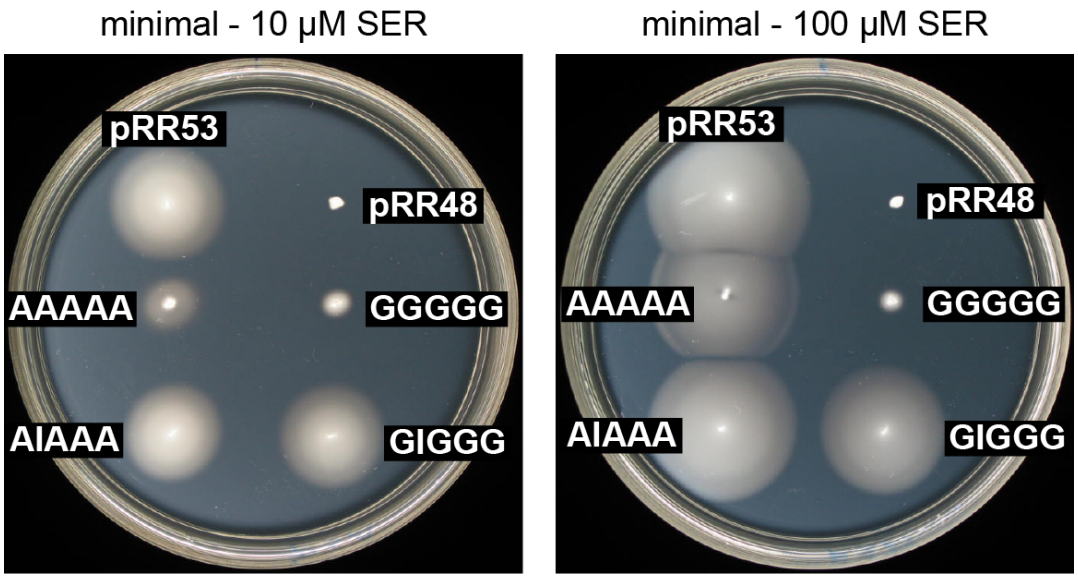

Fig. S4. Modification patterns of Tsr control cable mutants.

Plasmids expressing the indicated mutant forms of Tsr were transferred to strains UU2610 (R^- B^-), UU2611 (R^- B^+) and UU2632 (R^+ B^-). Protein extracts were prepared and analyzed by SDS-PAGE and Tsr bands visualized by western blotting as detailed in Methods. Unlabeled lanes contained a mixture of three Tsr modification states as mobility standards: upper band = Tsr [EEEEE]; middle band = Tsr [QEQEE]; lower band = Tsr [QQQQE].

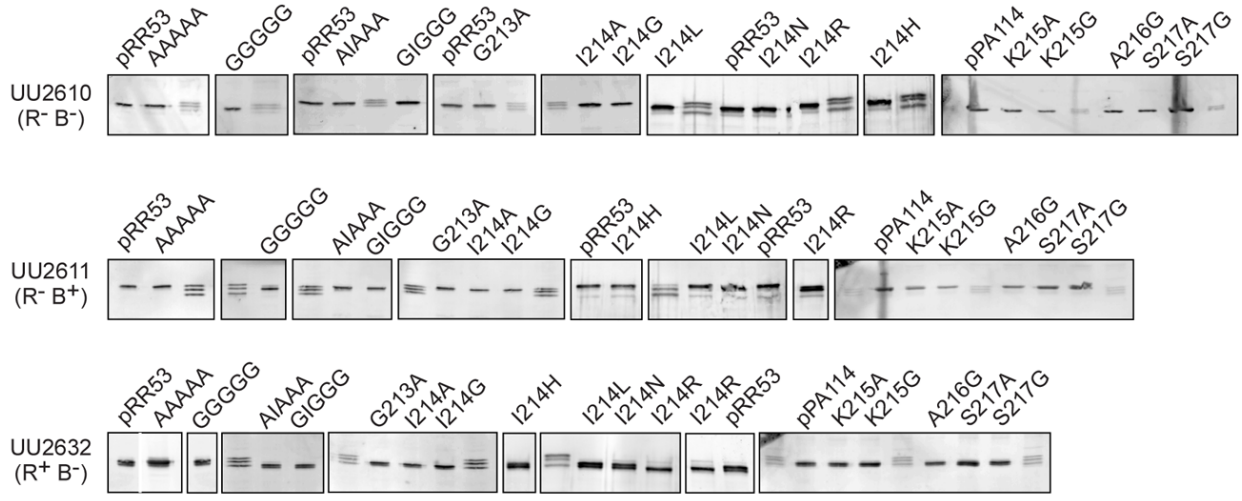

Fig. S5. Modification patterns of Tsr control cable mutants.

Plasmids expressing the indicated mutant forms of Tsr were transferred to strain UU2612 (R^+ B^+). Cells were exposed (+ lanes) or not (- lanes) to serine before preparing the protein extracts. Tsr proteins were analyzed by SDS-PAGE and visualized by western blotting as detailed in Methods. Unlabeled lanes contained a mixture of three Tsr modification states as mobility standards: upper band = Tsr [EEEEE]; middle band = Tsr [QEQEE]; lower band = Tsr [QQQQE].