

System	Mean dG* (kcal/mol)	Mean dG0 (kcal/mol)
WT Human Sec	16.37 \pm 0.95 kcal/mol	-60.85 \pm 1.84 kcal/mol
WT Mouse Cys	20.72 \pm 1.07 kcal/mol	-55.43 \pm 1.77 kcal/mol
Mouse Sec	15.75 \pm 0.71 kcal/mol	-64.42 \pm 1.86 kcal/mol
Mouse Cys - S47A	17.38 \pm 0.59 kcal/mol	-56.04 \pm 2.59 kcal/mol
Human Sec A47S	18.95 \pm 1.22 kcal/mol	-58.86 \pm 1.90 kcal/mol
Mouse Cys T52A	20.08 \pm 1.35 kcal/mol	-48.75 \pm 2.83 kcal/mol
Human Sec A52T	19.49 \pm 0.61 kcal/mol	-56.84 \pm 1.80 kcal/mol
Mouse Cys F48Y	20.25 \pm 0.47 kcal/mol	-52.71 \pm 1.74 kcal/mol
Human Sec Y48F	23.69 \pm 1.61 kcal/mol	-51.15 \pm 1.82 kcal/mol
Human Sec Q54T	19.18 \pm 1.04 kcal/mol	-58.15 \pm 1.82 kcal/mol
Human Sec C99R	17.52 \pm 0.69 kcal/mol	-50.28 \pm 2.55 kcal/mol
Human Cys	19.34 \pm 1.05 kcal/mol	-49.99 \pm 2.73 kcal/mol

Table 1: Free Energy Changes