

Supplemental Table 2. Effect of GLP-1R mutations on cell surface expression and cAMP signalling. cAMP data in figure 2 were analysed using a three-parameter logistic equation to derive pEC_{50} and E_{max} values. pEC_{50} values represent the negative logarithm of the concentration of agonist that produces half the maximal response. E_{max} are presented as a % of the WT response. The same data was analysed using the operational model of agonism to derive functional affinity values ($\text{Log } K_A$) and efficacy values ($\text{Log } \tau_c$) that were corrected to the cell surface expression data as determined by ELISA. These are reported as $\text{Log } \tau_c$. All values are expressed as mean \pm S.E.M. of four individual experiments.

Construct	Cell surface Expression (% WT)	pEC_{50}	E_{max} (% WT)	$\text{Log } K_A$	$\text{Log } \tau_c$
Wildtype	-	6.88 ± 0.09	100 ± 2	-6.55 ± 0.12	0.195 ± 0.05
Y145 ^{1.40} A	88 ± 8	6.09 ± 0.34	55 ± 9	-6.01 ± 0.25	-0.300 ± 0.16
Y148 ^{1.43} A	67 ± 8	ND	ND	ND	ND
K197 ^{2.67} A	22 ± 4	ND	ND	ND	ND
L201 ^{2.71} A	94 ± 2	5.73 ± 0.36	51 ± 9	-5.55 ± 0.33	-0.346 ± 0.16
W203 ^{2.73} A	94 ± 6	6.53 ± 0.27	50 ± 4	-6.30 ± 0.31	-0.363 ± 0.09
M204 ^{2.74} A	99 ± 2	5.86 ± 0.45	42 ± 11	-5.70 ± 0.34	-0.488 ± 0.15
L217 ^{ECL1} A	109 ± 5	6.55 ± 0.34	69 ± 7	-6.31 ± 0.46	-0.212 ± 0.09
Y220 ^{ECL1} A	94 ± 4	5.07 ± 0.82	14 ± 9	ND	ND
F230 ^{3.33} A	92 ± 6	6.26 ± 0.34	55 ± 8	-6.03 ± 0.29	-0.292 ± 0.11
M233 ^{3.36} A	126 ± 7	5.80 ± 0.30	13 ± 2	-5.77 ± 0.53	-1.22 ± 0.42
T298 ^{ECL2} A	85 ± 6	6.65 ± 0.40	64 ± 7	-6.41 ± 0.36	-0.152 ± 0.13
W297 ^{ECL2} A	60 ± 7	5.85 ± 0.21	44 ± 5	-5.69 ± 0.40	-0.314 ± 0.17