

**Supplementary Table 2****Liquid culture assay results for LPhP variants in Figure 3B,C and fold-change calculations**

LPhP variants	mut (-) Ad		no mut (-) Ad		fold-change (-) Ad		mut (+) Ad		no mut (+) Ad		fold-change (+) Ad	
	mean	std dev	mean	std dev	std dev	mean	std dev	mean	std dev	mean	std dev	mean
57-61 +/- 48	35	6.9	110	31	3.1	1.1	6.3	2.9	73	10	12	5.6
55/57-61 +/- 48	11	2.3	170	40	15	4.9	3.3	1.1	14	2.7	4.2	1.6
51/57-61 +/- 48	590	54	880	150	1.5	0.3	190	35	430	92	2.3	0.6
54/55/57-61 +/- 48	46	9.9	530	180	12	4.6	10	4.7	160	16	16	7.7
LLhP I48S	100	35	15	6.7	-6.7	3.8	23	8.9	6.3	1.8	-3.7	1.8
48/51/54/55/57-61 +/- 50	11	2.4	140	47	13	5.1	2.5	0.7	27	17	11	7.4
LLhP N50S	190	24	15	6.7	-13	5.9	68	11	6.3	1.8	-1.1	3.5
57-61 +/- 51	880	150	110	31	-8.0	2.6	430	92	73	10	-5.9	1.5
48/57-61 +/- 51	590	54	35	6.9	-17	3.7	190	35	6.3	2.9	-30	15
48/55/57-61 +/- 51	330	120	11	2.3	-30	13	110	58	3.3	1.1	-33	21
48/54/55/57-61 +/- 51	140	47	46	9.9	-3.0	1.2	27	17	10	4.7	-2.7	2.1
LLhP R51A	690	140	15	6.7	-46	23	950	150	6.3	1.8	-150	49
57-61 +/- 54	460	120	110	31	-4.2	1.6	290	61	73	10	-4.0	1.0
55/57-61 +/- 54	530	180	170	40	-3.1	1.3	160	16	14	2.7	-11	2.5
48/55/57-61 +/- 54	46	9.9	11	2.3	-4.2	1.3	10	4.7	3.3	1.1	-3.0	1.7
LLhP Q54R	100	15	15	6.7	-6.7	3.1	19	9.5	6.3	1.8	-3.0	1.7
57-61 +/- 55	170	40	110	31	-1.5	0.6	14	2.7	73	10	5.2	1.2
48/57-61 +/- 55	11	2.3	35	6.9	3.2	0.9	3.3	1.1	6.3	2.9	1.9	1.1
48/51/57-61 +/- 55	330	120	590	54	1.8	0.7	110	58	190	35	1.7	1.0
54/57-61 +/- 55	530	180	460	120	-1.2	0.5	160	16	290	61	1.8	0.4
LLhP Q55S	200	39	15	6.7	-13	6.5	55	17	6.3	1.8	-8.7	3.7
48/54/55/57-61 +/- 46	140	13	46	9.9	-3.0	0.7	49	22	10	4.7	-4.9	3.2
48/50/54/55/57-61 +/- 46	690	140	560	64	-1.2	0.3	950	150	350	95	-2.7	0.9
LLhP N46H	11	2.4	15	6.7	1.4	0.7	2.5	0.7	6.3	1.8	2.5	1.0

*Data not shown in figures*

48/55/57/58/59/61	660	110 (no detectable protein)	540	160
48/55/57/58/60/61	310	170	160	150

"Ad" is adenine, which is metabolized to co-repressor hypoxanthine.

**Fold-change calculations for Figure 3B, C**

Positive values indicate enhanced repression and are calculated as the ratio of [no substitution]/[+ substitution].

Negative values indicate diminished repression and are calculated as the ratio of [+substitution]/[no substitution].