

Table S1. Normalized activities of AP and BG Wzx truncation fusions to PhoALacZ α

Residue ^a	Avg AP ^b	Avg BG ^c	%AP ^d	%BG ^e	NAR ^f (%AP÷%BG)	Colony Colour ^g	Localization ^h
<i>Random</i>							
T27	147.6	19.4	31.8	19.0	1.67	Purple	TM
R32	464.8	9.1	100.0	8.9	11.23	Blue	P
S43	459.4	0.2	98.8	0.2	>100	Blue	P
F65	-1.6	19.1	-0.3	18.7	<0.01	Red	C
G71	-3.2	16.1	-0.7	15.7	<0.01	Red	C
I80	0	49.2	0.0	48.0	<0.01	Red	C
H100	113.7	0.2	24.5	0.2	>100	Blue	P
L133	-2.0	82.2	-0.4	80.3	<0.01	Red	C
V158	168.1	45.0	36.2	44.0	0.82	Purple	TM
N196	-2.6	41.3	-0.6	40.4	<0.01	Red	C
W202	10.4	95.3	2.2	93.1	0.02	Red	C
R203	2.5	48.9	0.5	47.8	0.01	Purple	C
V208	0.5	47.3	0.1	46.2	<0.01	Red	C
S219	-0.3	90.1	-0.1	88.0	<0.01	Red	C
S230	-1.3	53.1	-0.3	51.8	<0.01	Red	C
I235	-1.1	72.8	-0.2	71.1	<0.01	Red	C
G242	-1.7	23.2	-0.4	22.7	<0.01	Red	C
G287	-4.5	29.6	-1.1	29.4	<0.01	Red	C
<i>Targeted</i>							
W113	8.0	-4.4	1.6	-0.8	>100	Blue	P
S138	-3.9	10.8	-0.8	2.0	<0.01	Red	C
S168	156.8	-5.3	31.9	-1.0	>100	Blue	P
V178	491.3	28.9	100.0	5.4	18.46	Blue	P
Y212	-6.1	34.5	-1.2	6.4	<0.01	Red	C
L251	7.9	37.7	1.6	7.1	0.23	Purple	TM
D269	25.9	15.4	5.3	2.9	1.83	Purple	TM
A276	3.1	26.4	0.6	4.9	0.13	Purple	TM
F304	46.2	12.8	9.4	2.4	3.94	Purple	TM
G311	13.8	-7.4	2.8	-1.4	>100	Blue	P
G316	14.0	-8.8	2.9	-1.6	>100	Blue	P
V318	22.9	54.5	4.7	10.2	0.46	Purple	TM
E325	5.9	0.9	1.2	0.2	7.21	Purple	TM
M339	-0.5	4.0	-0.1	0.7	<0.01	Red	C
L346	0.2	534.3	0.0	100.0	<0.01	Red	C
F374	6.3	-2.4	1.3	-0.4	>100	Blue	P
D381	158.3	-1.9	32.2	-0.4	>100	Blue	P
S402	-2.8	2.5	-0.6	0.5	<0.01	Red	C
K411	-2.9	18.4	-0.6	3.4	<0.01	Red	C

As purpose-built truncations had higher absolute activities than random truncations, the two sets were normalized independently against the maximum activity within the respective subset of residues.

^a Position of the terminal amino acid of Wzx followed by reporter.

^b and ^c AP and BG activities of the fusions in Miller units, measured as described in Materials and Methods; average of four independent experiments.

^d and ^e Percentage of AP and BG activities of the fusions in relation to the maximum measured activity within the set, calculated separately for targeted and random truncations.

^f Normalized %AP ÷ %BG activity ratio (NAR), rounded to two decimal places.

^g Colony colour of expressed clone on dual-indicator plate.

^h Localization of terminal amino acid on the topology map: periplasm (P), cytoplasm (C), transmembrane (TM).