

Supplemental Table 1: Average dumping indices for indicated genotypes tested in the pharmaco-genetic interaction screen and their respective wild-type controls.

Category	Factor	Genotype	Stock Number	n	% Dumping inhibitor/ % Dumping vehicle			
					Experimental		Wild-type controls	
					Average	SD	Average	SD
Actin monomer binding	Profilin	<i>chic^{fs(2)1320}/+</i>	N/A ^a	2	0.456	0.016	0.490	0.115
		<i>chic^{fs(2)ly38}/+</i>	N/A ^a	1	0.451	N/A	0.571	N/A
Actin filament elongation	Cappuccino	<i>capu¹/+</i>	BDSC5094	2	0.500	0.422	0.519	0.024
	Enabled	<i>ena²³/+</i>	BDSC25405	5	0.383	0.156	0.473 ^b	0.007
		<i>ena²¹⁰/+</i>	BDSC25404	5	0.192	0.135	0.443 ^c	0.026
		<i>ena^{DG14706}/+</i>	BDSC20435 ^d	1	0.585	N/A	0.443	N/A
		<i>ena^{EY13131}/ena^{EY13131}</i>	BDSC20860	2	0.423	0.084	0.431	0.025
		<i>ena^{GC1}/+</i>	BDSC8569	2	0.417	0.013	0.508	0.093
<i>ena^{GC5}/+</i>	BDSC8570	1	0.600	N/A	0.538	N/A		
Ena regulator	Abelson Tyrosine Kinase	<i>abl^l/+</i>	BDSC9569	4	0.414	0.111	0.506	0.043
	Capping Protein Alpha-subunit	<i>cpa^{KG02261}/+</i>	BDSC13197	3	0.262	0.088	0.482	0.017
	Capping Protein Beta-subunit	<i>cpb^{6.15}/+</i>	BDSC8742	4	0.313	0.148	0.496	0.029
		<i>cpb^{F19}/+</i>	BDSC8808	3	0.157	0.056	0.488	0.016
	Lamellipodin	<i>pico^{KG00685}/pico^{KG00685}</i>	BDSC13296 ^d	1	0.784	N/A	0.520	N/A
Actin bundling/crosslinking	Kelch	<i>wⁱ; kel^{DE1}, cn¹/+</i>	BDSC4893	1	0.589	N/A	0.592	N/A
	Fascin	<i>sn^{34e}/sn^{34e}</i>	BDSC116	3	0.298	0.057	0.497	0.082
		<i>sn^{36a}/+</i>	BDSC117	5	0.350	0.158	0.521	0.082
		<i>sn^{X2}/+</i>	BDSC1035	1	0.088	N/A	0.552	N/A
	Villin	<i>qua⁶⁻³⁹⁶/+</i>	BDSC4571	2	0.535	0.049	0.560	0.032
		<i>qua⁸⁻¹⁰⁶²/+</i>	BDSC4572	2	0.536	0.008	0.554 ^e	N/A
		<i>qua^{DG29711}/qua^{DG29711}</i>	BDSC20529 ^d	1	0.641	N/A	0.537	N/A
<i>qua^{EY0372}/+</i>		BDSC19665	3	0.613	0.047	0.560 ^f	0.032	
Cell adhesion	E-Cadherin	<i>shg^{E17B}/+</i>	BDSC8748	2	0.727	0.085	0.512	0.042
		<i>shg^{K03401}/+</i>	BDSC10377	4	0.580	0.163	0.506	0.069
Contractility	non-muscle Myosin II Regulatory Light Chain	<i>sqh^{AX3}/+</i>	BDSC25712	3	0.266	0.072	0.544	0.035
		<i>sqh^{Df(1)5D}/+</i>	BDSC1665	3	0.374	0.255	0.509	0.065
		<i>sqh^{EY09875}/+</i>	BDSC17616	4	0.294	0.159	0.477	0.076
Rho	Rho	<i>hs-RhoL.N25</i>	BDSC4848	1	0.375	N/A	0.504	N/A
		<i>hs-RhoL.V20/+</i>	BDSC4850	1	0.750	N/A	0.474	N/A
Rho-effector	Rho-associated Protein Kinase	<i>rok¹/+</i>	BDSC6665	1	0.444	N/A	0.600	N/A
		<i>rok¹⁰⁴⁰⁶⁵/+</i>	BDSC18727	3	0.248	0.143	0.548	0.050
Cell Signaling	Decapentaplegic	<i>dpp^{d5}/+</i>	BDSC2071	1	0.500	N/A	0.517	N/A

Note: n= number of trials. Green background indicates enhancers, with light green for weak and darker green for strong interactors. Red background indicates suppressors.

^aStocks were a gift from Allan Spradling, Carnegie Institution for Science, Baltimore, MD.

^bFor this genotype, three experimental replicates were taken from dose response curves and do not have a wild-type control (wild-type; n=2).

^cFor this genotype, one experimental replicate was taken from a dose response curve and does not have a wild-type control (wild-type; n=4).

^dStocks no longer at BDSC.

^eFor this genotype, both experimental replicates were performed simultaneously and share a common wild-type control (wild-type control; n=1).

^fFor this genotype, two experimental replicates were performed simultaneously and share a common wild-type control (wild-type; n=2).