

Supplementary Table 2| Available Q-system transgenic fly stocks.

Name	Chromosome	Description	Use	Bloomington Stock #
QUAS reporters				
QUAS-mCD8-GFP	X	Membrane targeted GFP reporter	Labels cell bodies and cell membranes. CD8-GFP is the best choice for neuronal labeling.	30001
QUAS-mCD8-GFP #5J	2 nd (23B1)			30002
QUAS-mCD8-GFP #5B	3 rd (86E13)			30003
QUAS-mtdTomato-3xHA	X (4F4)	Membrane targeted tandem dimer Tomato reporter expresses a red fluorescent protein with 3 copies of a C-terminal HA tag	Labels cell membranes well. It is excellent for live imaging of larvae and adult animal tissues since the red excitation/emission wavelengths (554 nm/581 nm) penetrate tissues better than the excitation/emission wavelengths for GFP (488 nm / 507 nm)	30118
QUAS-mtdTomato-3xHA #14	2 nd (49C3)			30004
QUAS-mtdTomato-3xHA #26	3 rd (94E7)			30005
QUAS-nucLacZ	X	Nuclear localized β -galactosidase reporter	Marks the nuclei of QF expression patterns for identifying the number of cells expressing a QF line.	Available Upon Request
QUAS-nucLacZ #7	2 nd			30006
QUAS-nucLacZ #44	3 rd			30007
QUAS-FLPo	X	Mammalian codon optimized FLPase ¹ reporter.	In combination with "Flp-out" reporters, is used for generating intersectional expression patterns (see Step 7D)	Available Upon Request
QUAS-FLPo #1	2 nd (50E6)			30126
QUAS-FLPo #7	3 rd (72D1)			30127
QUAS-FLPo	3 rd (attP2)(68A4)	Reporter targeted to PhiC31 integrase site.		30008
QUAS>stop>mCD8-GFP #10	2 nd (50B3)	Intersectional "Flp-out" reporter that contains FRT ('>') sites surrounding two transcription terminators ('stop') followed by a membrane targeted GFP gene	This "Flp-out" reporter can be used to only label tissues where QF expression patterns overlap with GAL4 expression patterns (Step 7C; Fig. 5c)	30134
QUAS>stop>mCD8-GFP #5	3 rd (93D3)			30136
QUAS>stop>mCD8-GFP #9	3 rd (68A1)			30135
QUAS-shibire ^{ts1} #2	X (3A6)	Reporter the expresses a temperature sensitive variant of the vesicle protein dynamin ² .	Mostly used for behavioral analyses, can effectively silence neurotransmission at restrictive temperatures (~29°C to 33°C)	30010
QUAS-shibire ^{ts1} #3	X (3B6)			30011
QUAS-shibire ^{ts1} #8	2 nd (25B1)			30013
QUAS-shibire ^{ts1} #5	3 rd (88E5)			30012
QUAS>stop>shibire ^{ts1} #16	3 rd (82E7)	Intersectional 'Flp-out' reporter that expresses temperature sensitive dynamin	This "Flp-out" reporter can be used for silencing only neurons that co-express both a GAL4 line and a QF line (Step 7C).	30128
QUAS-dmyc #7	2 nd	Reporter that expresses the <i>Drosophila myc</i> (<i>diminutive</i>) gene	Can be used to increase cell growth ³ or induce cell competition ⁴ of QF expressing cells (Potter and Luo, unpublished results).	30009
QUAS-GAL80	X, 2 nd , 3 rd	Reporter that expresses the GAL4 suppressor GAL80	Used with a QF line to eliminate overlapping GAL4 expression regions (Step	Available Upon Request

				7A).
QF lines:				
GH146-QF #11	2 nd (49E1)	QF driver that expresses in a majority of projection neurons	Expression and manipulation of projection neuron populations	30014
GH146-QF #53	3 rd (68D1)	QF driver that expresses in a majority of projection neurons	Expression and manipulation of projection neuron populations	30015
ET6-QF	3 rd (68D1)	QF enhancer trap	Expresses QF in trachea.	30016
ET9-QF	2 nd (49E7)	QF enhancer trap	Broad QF expression in many tissues.	30017
ET31-QF	2 nd (52E11)	QF enhancer trap	Expresses QF in ensheathing glia.	30018
ET40-QF	2 nd (49E6)	QF enhancer trap	Expresses QF in imaginal discs. Can be used for developmental or coupled MARCM studies.	30019
ET49-QF	3 rd (70C15)	QF enhancer trap	Strong and broad expression in many tissues, including brain. Can be used to test effects of broad <i>QUAS-geneX</i> expression on developmental processes.	30020
QS lines:				
tubP-QS	X	Tubulin promoter driving ubiquitous QS expression	Repression of QF activity in all tissues, which can be reversed by quinic acid treatment.	Available Upon Request
tubP-QS #L1	2L (30C5)			30024
tubP-QS	2R			Available Upon Request
tubP-QS #A	3L (78C8)			30021
tubP-QS #9B	3R (100E1)		Stock used most frequently in Ref ⁵ .	30022
Pin/ CyO, tubP-QS	CyO balancer	Tubulin promoter driving ubiquitous QS expression inserted onto CyO balancer chromosome	Can be used to generate second chromosome balanced stocks which ubiquitously express QS in order to abrogate any negative effects due to a QF expressor.	Available Upon Request
DH/ TM6B, tubP-QS #4A	TM6B balancer	Tubulin promoter driving ubiquitous QS expression inserted onto TM6B balancer chromosome.	Can be used to generate third chromosome balanced stocks which ubiquitously express QS in order to abrogate any negative effects due to a QF expressor.	30023
UAS reporters:				
UAS-QS	3 rd (attP2)	GAL4 inducible QS reporter	Used for intersectional studies where QF activity in subsets of cells can be blocked by GAL4 expression (Step 7B).	30033
UAS>stop>mCD8-GFP #11	2 nd	Intersectional "Flip-out" reporter that contains FRT ('>') sites surrounding two transcription terminators ('stop') followed by a membrane targeted GFP gene	This "Flip-out" reporter can be used to only label tissues where QF expression patterns overlap with GAL4 expression patterns (Step 7D)	30125
UAS>stop>mCD8-GFP #14, UAS>stop>mCD8-GFP#18	3 rd	Two copies of UAS "Flip-out" reporter recombined on 3 rd chromosome.	Use for intersectional studies. Two copies of "Flip-out" reporter can increase mCD8-GFP expression levels.	30032
GH146-QF recombinants:				

GH146-QF#53, QUAS-mCD8-GFP	3 rd	Recombinant transgenic fly that expresses mCD8-GFP in projection neurons	Identification of projection neurons.	30038
GH146-QF#53, QUAS-mtdT-3xHA	3 rd	Recombinant transgenic fly that expresses mtdT-3xHA in projection neurons	Identification of projection neurons.	30037
ET40-QF recombinants:				
ET40-QF, QUAS-mCD8-GFP	2 nd	QF enhancer trap recombined with mCD8-GFP reporter.	mCD8-GFP expression in imaginal discs throughout development	Available Upon Request
ET40-QF, QUAS-mtdT-3xHA #14	2 nd	QF enhancer trap recombined with mtdT-3xHA reporter	Strong QF induced labeling of imaginal discs throughout development.	30043
Q-MARCM				
tubP-QS #3A, 19A ^{FRT}	X (3F9)	Tubulin promoter driving ubiquitous QS expression recombined onto 19A FRT chromosome	Can be used for Q MARCM analysis on X.	30129
tubP-QS #O, 19A ^{FRT}	X (13F1)		Can be used for Q MARCM analysis of X	30130
tubP-QS #4C, 40A ^{FRT}	2L (35D4)	Tubulin promoter driving ubiquitous QS expression recombined onto 40A FRT chromosome	Can be used for Q MARCM analysis of 2L	30035
tubP-QS #J, 40A ^{FRT}	2L (35B2)		Can be used for Q MARCM analysis of 2L	30131
G13 ^{FRT} , tubP-QS #6	2R (47A7)	Tubulin promoter driving ubiquitous QS expression recombined onto G13 FRT chromosome	Can be used for Q MARCM analysis of 2R	30132
G13 ^{FRT} , tubP-QS #5A	2R (59F1)		Can be used for Q MARCM analysis of 2R	30133
tubP-QS #F2, 80B ^{FRT}	3L (77B9)	Tubulin promoter driving ubiquitous QS expression recombined onto 80B FRT chromosome	Can be used for Q MARCM analysis of 3L	30537
82B ^{FRT} , tubP-QS#9B	3R (100E1)	Tubulin promoter driving ubiquitous QS expression recombined onto 82B FRT chromosome	Can be used for Q MARCM analysis of 3R. This stock was most frequently used in ref ⁵ .	30034
82B ^{FRT} , tubP-QS#21	3R (95A7)		Can be used for Q MARCM analysis on 2R.	30117
GH146-QF#53, 82B ^{FRT} , tubP-QS#9B	3 rd	Recombinant stock with GH146-QF on 3L and FRT and tubP-QS on 3R	Q MARCM stock for generating MARCM clones of projection neurons	30039
y, w; ET40-QF, QUAS-mtdT-3xHA; 82B ^{FRT} , tubP-QS#9	2 nd , 3 rd	Recombinant stock with ET40-QF recombined to QUAS reporter on the 2 nd chromosome, and FRT and tubP-QS on 3R.	Q MARCM stock for generating MARCM clones in imaginal discs.	30042
hsFLP1, QUAS-mtdT-3xHA, UAS-mCD8-GFP	X	Recombinant stock combining QF and GAL4 reporters with heat shock inducible FLPase expression.	Q MARCM stock for heat shock inducible expression of FLPase to generate mitotic clones which can be detected by QF reporter (red) and GAL4 reporter (green).	30118
GAL4 MARCM				
tubP-GAL4, 82B ^{FRT} /TM6B	3 rd (79A2)	Recombinant between ubiquitous GAL4 driver line on 3L (79A2) with FRT on 3R (82B2)	Ubiquitous GAL4 driver tightly linked to 3R 82B FRT chromosome. Can be used to generate MARCM stocks.	30029
tubP-GAL4, 82B ^{FRT} , tubP-GAL80/TM6B	3 rd	Recombinant between ubiquitous GAL4 driver on 3L and FRT and ubiquitous GAL80 driver on 3R	MARCM ready stock for labeling of clones in any tissue.	30036
UAS-mCD8-GFP, QUAS-	X	Recombinant between QF	Can be used for reporting	Available

mtdT-3xHA; Pin/CyO		(red) and GAL4 (green) reporters.	expression of both QF and GAL4 drivers.	Upon Request
QUAS-mCD8-GFP#5B, tubP-GAL4/TM6B	3 rd	QUAS-GFP reporter recombined with ubiquitously expressed GAL4 driver	Can be used for ubiquitously expressing <i>UAS-geneX</i> effector and visualizing effects on <i>promoter-QF</i> labeled tissues.	30031

For additional MARCM reagents, see ref. 6.

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