

Table S1. Genetic interactions between *kuz*, *slit* and *robo*

| A. Fas II axon guidance defects | | | | | | | | |
|--|--|---------------------|----|-----|--------------------------|--|--|------------------------------|
| Genotype | Number of segments scored (embryos) ¹ | + | ++ | +++ | FasII axon circling | % of FasII crossing defects ² | % of FasII circling defects ³ | Statistics (unpaired t-test) |
| <i>w¹¹¹⁸</i> | 110 (10) | 0 | 0 | 0 | 0 | 0 | 0 | – |
| <i>kuz^{H143}/+</i> | 66 (6) | 0 | 0 | 0 | 0 | 0 | 0 | – |
| <i>slit¹, robo⁵/+</i> | 132 (12) | 9 | 19 | 2 | 0 | 22.7 | 0 | – |
| <i>slit¹, robo⁵/+, kuz^{H143}</i> | 143 (13) | 27 | 39 | 8 | ND | 51.7 | ND | <i>P</i> <0.0001 |
| <i>slit¹, robo⁵/+, kuz^{H12}</i> | 143 (13) | 23 | 42 | 18 | ND | 58 | ND | <i>P</i> <0.0001 |
| <i>slit¹, robo⁵/+, kuz^{e29}</i> | 154 (14) | 21 | 50 | 36 | ND | 69.5 | ND | <i>P</i> <0.0001 |
| <i>kuz^{H143}</i> | 110 (10) | ND | ND | ND | 4 | 50 | 3.6 | – |
| <i>kuz^{e29}</i> | 77 (7) | ND | ND | ND | 2 | 76.6 | 2.6 | – |
| <i>slit¹, robo⁵, kuz^{H143}/+, +, kuz^{H143}</i> | 110 (10) | ND | ND | ND | 31 | 100 | 28.2 | <i>P</i> <0.0011 |
| <i>slit¹, robo⁵, kuz^{H143}/+, +, kuz^{e29}</i> | 110 (10) | ND | ND | ND | 43 | 100 | 48.9 | <i>P</i> <0.0001 |
| B. Apterous axon crossing defects⁴ | | | | | | | | |
| Genotype | Number of segments scored (embryos) ¹ | Ap crossing defects | | | % of Ap crossing defects | | Statistics (unpaired t-test) | |
| <i>w¹¹¹⁸</i> | 96 (12) | 0 | | | 0 | | – | |
| <i>kuz^{H143}/+</i> | 104 (13) | 20 | | | 19.2 | | – | |
| <i>slit²/+</i> | 120 (15) | 20 | | | 16.7 | | – | |
| <i>slit², +/ kuz^{H143}, +</i> | 288 (36) | 117 | | | 40.6 | | <i>P</i> <0.0001 | |
| <i>slit², +/ kuz²⁵⁸³, +</i> | 224 (28) | 92 | | | 41.1 | | <i>P</i> <0.0001 | |
| <i>slit², +/ kuz^{H12}, +</i> | 360 (45) | 112 | | | 31.3 | | <i>P</i> <0.0001 | |
| <i>UASKuzDN</i> | 96 (12) | 13 | | | 13.5 | | – | |
| <i>slit²/+;UASKuzDN</i> | 112 (14) | 65 | | | 58 | | <i>P</i> <0.0001 | |
| <i>robo/+</i> | 112 (14) | 22 | | | 19.6 | | – | |
| <i>robo/+;UASKuzDN*</i> | 192 (24) | 61 | | | 31.8 | | <i>P</i> <0.05 | |

Stage 16-17 embryos stained with anti-FasII MAb were scored as follows: +, thinner than normal fascicle ectopically crossing the midline; ++, normal fascicle ectopically crossing the midline; +++, thicker than normal fascicle ectopically crossing the midline.

¹Eight abdominal and three thoracic segments were scored in each animal for a total of eleven segments.

²Percentage of FasII crossing defects is defined as total number of defects divided by segments scored.

³Percentage of FasII circling defects is defined as total number of defects divided by segments scored.

⁴Eight abdominal segments were scored in each embryo.

ND, not determined.