**Supplementary File 1. MB Morphology of is affected by deregulation of Dg and the exocyst**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Genotype* | Observed MB phenotypes | | | p-value | Number of lobes analyzed |
| **Normal** | **Misguided** | **Under-developed** |
| *Oregon* (*Control*) | 91% | 4% | 4% |  | 70 |
| *DgO86* | 49% | 20% | 31% | ap=8.2E-7 | 55 |
| *DgO86/ DgO55* | 39% | 29% | 32% | ap=4.5E-8 | 38 |
| *insc>Dg* | 8% | 54% | 38% | ap=1.8E-13 | 24 |
| *201Y>Dg* | 45% | 21% | 34% | ap=1.8E-7 | 47 |
| *201Y>DgRNAi* | 36% | 36% | 29% | ap=4.2E-6 | 14 |
| *c305a>Dg* | 78% | 11% | 11% | ap=0.163 | 37 |
| *c305a> DgRNAi* | 76% | 10% | 14% | ap=0.077 | 42 |
| *DgO86/+ (Control)* | 81% | 0% | 19% | ap=0.033 | 32 |
| *DgO86/Sec5E10* | 58% | 26% | 16% | bp=9.2E-3  cp=0.139  dp=0.021  ep=0.060 | 19 |
| *DgO86/Sec6Ex15* | 31% | 41% | 28% | bp=1.5E-5  dp=0.480  ep=0.031 | 39 |
| *DgO86/Sec10f03085* | 20% | 40% | 40% | bp=1.98E-6  ep=0.052 | 30 |
| *DgO86/Sec151* | 36% | 16% | 48% | bp=3.0E-4 | 44 |
| *Sec151*/*Sec5E10* | 31% | 47% | 22% | ap=1.5E-5 | 32 |
| *Sec151*/*Sec6Ex15* | 26% | 21% | 53% | ap=4.0E-4 | 38 |
| *Sec5E10*/ *Sec10f03085* | 35% | 38% | 28% | ap=6.1E-5 | 40 |
| *Sec151*/*Sec6KG08199* | 20% | 7% | 73% | ap=9.0E-7 | 44 |

**\* --** Misguided = fused β lobes or β lobe neurons projecting into γ lobe space

**\*\* --** Underdeveloped = smaller α or β lobes due to α lobe neurons projecting into β lobe space or vice versa

a – compared to *Oregon* (*Control*), b – compared to *DgO86/+ (Control),* c – compared to *DgO86/Sec6Ex15,*

d – comparedto *DgO86/Sec10f03085,* comparedto *DgO86/Sec151*

For comparison of the observed phenotypes, two-way tables and χ2-test were used.