**Table S1   Mutant genotypes**

| Name | Description |
| --- | --- |
| $w^{1118}$ | $white^-$ |
| WT | attP2[$S2E^{wt}EVE^{YFP}$] 16.4kb *eve* locus with wild type stripe 2 enhancer (S2E) and a YFP tag at the C-terminus of the *eve* coding region, integrated on the third chromosome |
| MSE | attP2[$S2E^{MSE}EVE^{YFP}$] 16.4kb *eve* locus with 244bp deleted from S2E (Fig. 2A) and a YFP tag at the C-terminus of the *eve* coding region, integrated on the third chromosome |
| $eve^{R13}$ | Null allele carrying a coding point mutation |
| $gt^{X11}$ | Null allele |
| $gt^{YFP}$ | attP2[$GT^{YFP}$] 26.2kb region of the *gt* locus with a YFP tag at the C-terminus of the *gt* coding region, integrated on the third chromosome |
| $eve^{\Delta MSE}$ | Native locus in which the MSE region of the stripe 2 enhancer is deleted and replaced with $w^+$ sequence (Ludwig *et al*., 2005) |