

**Table S1** Somatic muscle phenotypes in *Nost<sup>df004</sup>(m+z) Cip4<sup>Δ32</sup>(m+z)* double and *Nost<sup>df004</sup>(m+z) Cip4<sup>Δ32</sup>(m+z) Synd<sup>ΔEx22</sup>(z)* triple mutant embryos.

**A.** Myoblast and muscle phenotypes in stage 16 *Nost<sup>df004</sup>(m+z) Cip4<sup>Δ32</sup>(m+z)* double mutants

| unfused myoblasts present | missing muscles | embryo halves, n= | frequency, % |
|---------------------------|-----------------|-------------------|--------------|
| ✓                         | none            | 60                | 49.6         |
| ✓                         | in 1 segment    | 33                | 27.3         |
| ✓                         | in 2 segments   | 18                | 14.9         |
| ✓                         | in 3 segments   | 8                 | 6.6          |
| ✓                         | in 4 segments   | 2                 | 1.6          |
| Total                     |                 | 121               | 100          |

**B.** Myoblast fusion defects in double and triple mutants

| genotype   | stage 14               | early stage 15         | late stage 15          | stage 16               |
|--|------------------------|------------------------|------------------------|------------------------|
| <b>WT</b> <sup>1)</sup>  | 4,5 ± 0,97<br>(n=30)   | 7,3 ± 1,75<br>(n=30)   | 10,97 ± 1,38<br>(n=30) | ---                    |
| <b>yw</b> <sup>2)</sup>  | 4,86 ± 0,81<br>(n=35)  | 7,86 ± 1,22<br>(n=125) | 10,2 ± 1,37<br>(n=125) | 11,22 ± 1,72<br>(n=95) |
| <b><i>nost<sup>df004</sup>(m+z);;cip4<sup>Δ32</sup>(m+z)</i></b> <sup>3)</sup>                       | 3,88 ± 1,11<br>(n=114) | 5,86 ± 1,98<br>(n=133) | 8,45 ± 1,97<br>(n=114) | 9,57 ± 2,85<br>(n=14)  |
| <b><i>nost<sup>df004</sup>(m+z);;cip4<sup>Δ32</sup>(z),synd<sup>ΔEx22</sup>(z)</i></b> <sup>4)</sup> | 3,55 ± 1,35<br>(n=75)  | 6,2 ± 1,8<br>(n=93)    | 8,07 ± 1,9<br>(n=126)  | 8,56 ± 2,17<br>(n=89)  |

1) data from Bataillé et al., 2010; 2) own data; 3) embryos from homozygous *nost<sup>df004</sup>(m+z);;cip4<sup>Δ32</sup>(m+z)* parents; 4) homozygous embryos from *nost<sup>df004</sup>(m+z);;cip4<sup>Δ32</sup>(z),synd<sup>ΔEx22</sup>(z)/TM3, twi>>GFP* parents; ± = standard deviation; n = number of evaluated muscles, m+z, maternally plus zygotically ablated gene functions; z, only zygotically ablated gene function.