

## Description of Additional Supplementary Files

**File name:** Supplementary Data 1

**Description:** Raw data in Excel file (12 sheets)

- 1. Erk-7s:** Data at 7 somites and different temperatures used in Fig.S5 \_ digitisation of Erk activity from data as in Fig. 7.
- 2. Erk-11s:** Data at 11 somites and different temperatures used in Fig.S5 \_ digitisation of Erk activity from data as in Fig. 7.
- 3. Erk-15s:** Data at 15 somites and different temperatures used in Fig.S5 \_ digitisation of Erk activity from data as in Fig. 7.
- 4. Erk-19s:** Data at 19 somites and different temperatures used in Fig.S5 \_ digitisation of Erk activity from data as in Fig. 7.
- 5. RTqPCR\_Fgf8\_27C:** Data on Fgf8 expression at 27°C vs Rpl13 and b-actin used in Fig.5 \_ Obtained on LightCycler 480.
- 6. RTqPCR\_27C:** Data on gene expression in PSM, remaining Trunk (T) or Whole (W) embryo at 27°C used in Figs. 5, 6, and 8 and Fig. S6.
- 7. RTqPCR\_stage:** Data on gene expression in Whole embryo at given stage of somitogenesis and temperatures: 23°, 26°, 29° and 31°C used in Figs .6 and 8 and Figs. S6 and S8.
- 8. RTqPCR\_time:** Data on gene expression in Whole embryo at given time (1-8h) after bud stage and temperatures: 24°, 28° and 33°C used in Figs. 6 and 8.
- 9. WT-growth:** Data on growth of tail and shrinkage of PSM in WT embryos used in Fig. 4e and S2.
- 10. Fgf\_Phenotypes-growth:** Data on growth of tail and shrinkage of PSM in Fgf8 overexpressing embryos used in Fig. 4e.
- 11. RA\_Phenotype-growth:** Data on growth of tail and shrinkage of PSM in embryos incubated in DEAB and RA used in Fig. S2b.
- 12. Erk-with-exoFgf (15s):** Data on Erk activity in WT embryos and embryos overexpressing Fgf8 from an exogenous source (shown in Fig. 4); data used in Fig. S4.