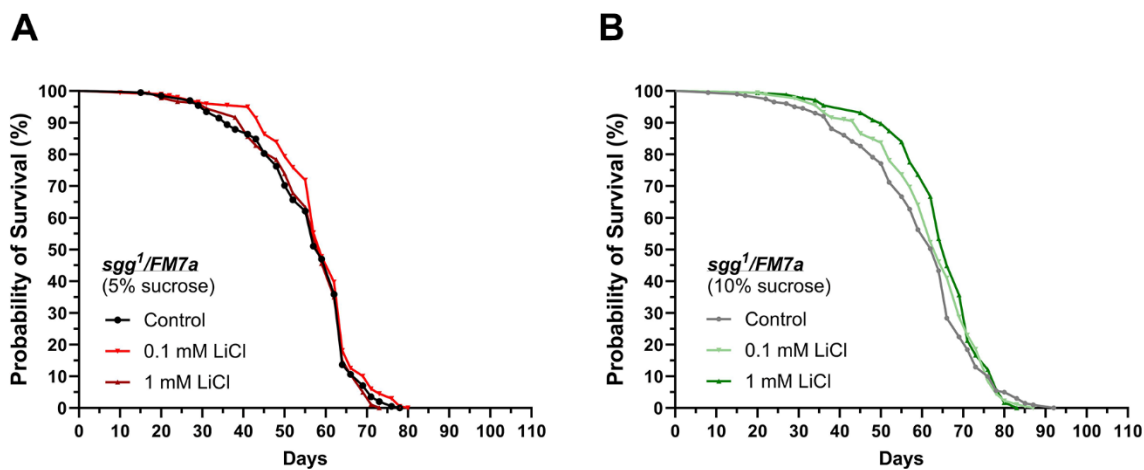
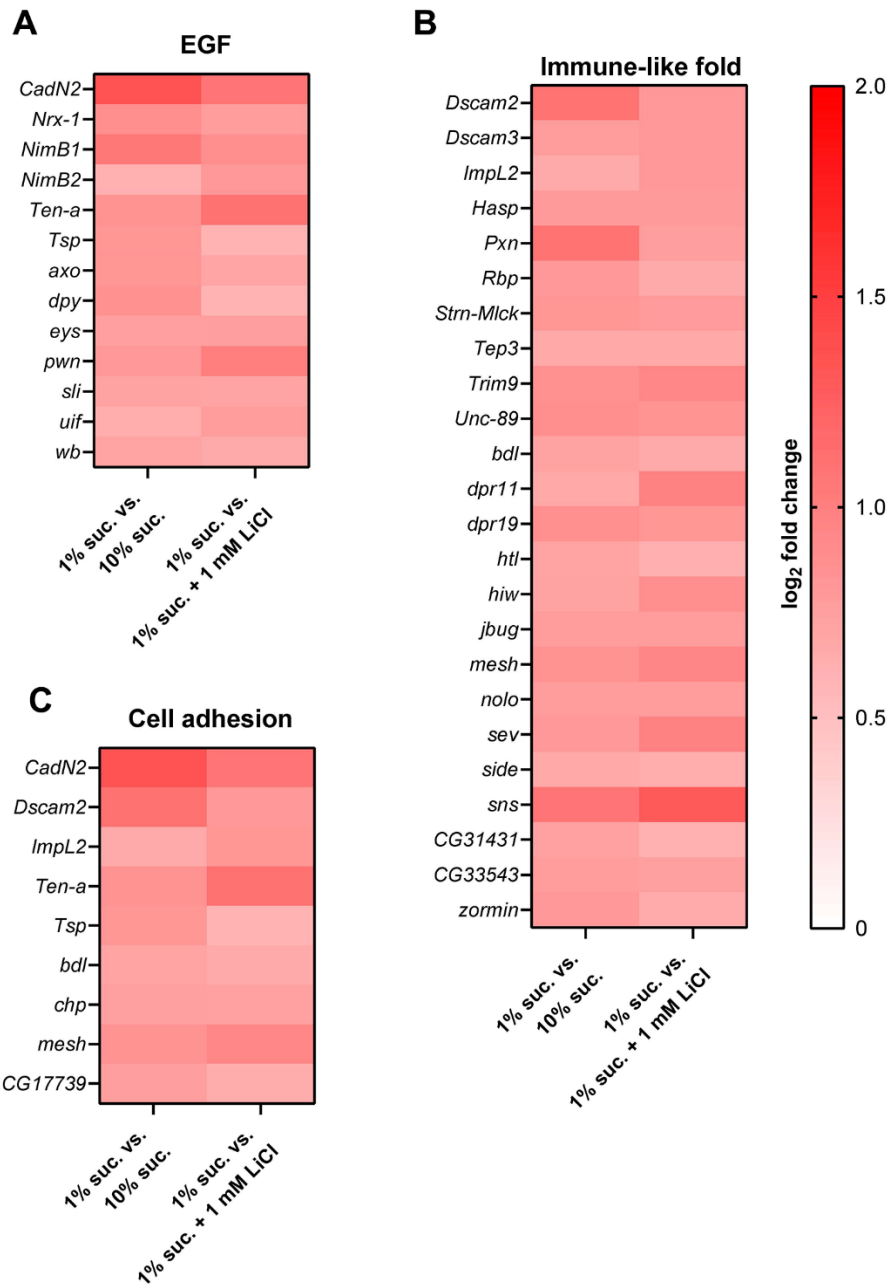


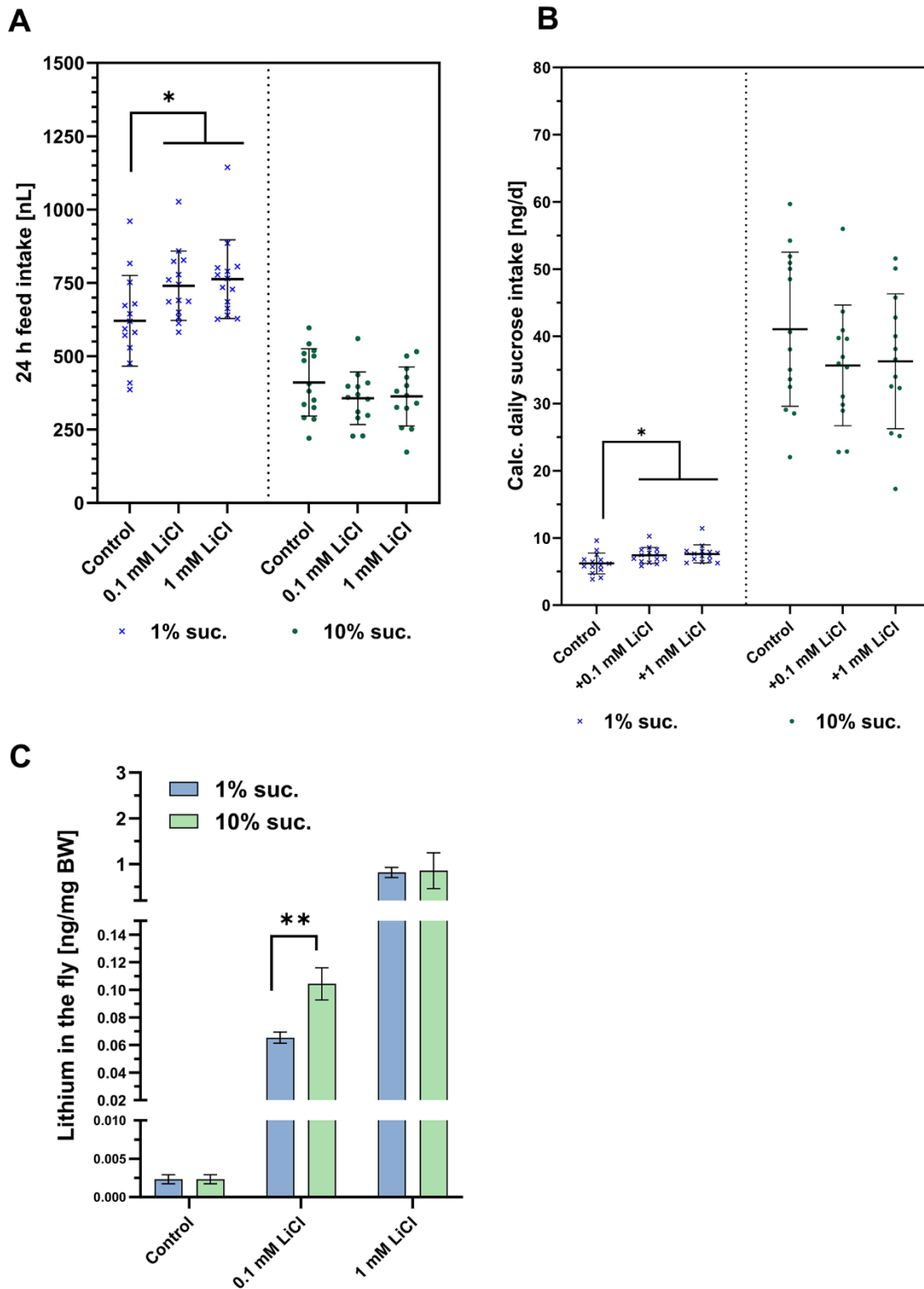
SUPPLEMENTARY FIGURES



Supplementary Figure 1. *sgg¹FM7a* survival is not affected by dietary lithium added to a 5% or 10% diet. Survival curves of female *sgg¹FM7a* flies receiving 0.1 or 1 mM LiCl were not affected when supplemented to a 5% sucrose diet (A) or a 10% sucrose diet (B). Survival curves were compared using the Log-Rank Mantel-Cox test ($p \leq 0.05$).



Supplementary Figure 2. Lithium and sucrose alter transcript levels of genes involved with EGF, Immune-like fold and cell adhesion in female *w¹¹¹⁸*. Functional annotation of co-regulated genes differentially expressed in response to either elevating the dietary sucrose content by a factor of 10 or by supplementing 1 mM LiCl to the 1% sucrose diet (as listed in Supplementary Table 3.) revealed significant clusters regarding the following terms: epidermal growth factor (EGF) (A), immune-like fold (B) and cell adhesion (C) (Scale shows log₂ fold changes of differentially expressed genes according to FDR $p \leq 0.05$).



Supplementary Figure 3. Higher feed intake due to low dietary sugar did not translate into higher lithium status in female *w¹¹¹⁸*. (A) The Excreta quantification assay revealed that lithium and sucrose both affect the feeding rate (Kruskal-Wallis test, $*p \leq 0.05$). (B) Despite the higher feeding rate, the daily sugar intake was still significantly lower in flies receiving 1% sucrose compared to flies administered 10% sucrose diets (Kruskal-Wallis test, $****p \leq 0.0001$). (C) Higher feeding rates did not translate into a higher lithium status in flies receiving 1% sucrose (Unpaired t-test, $**p \leq 0.01$). Data is given as mean \pm SD, $n = 13 - 14$ with each n comprising 20 female *w¹¹¹⁸*.