In Utero and Lactational Lead Exposure in Mice Causes Long-Term Changes in Brain DNA Methylation

Francisco Javier Sánchez-Martín[1,*], Diana M. Lindquist[2], Julio Landero-Figueroa[3], Xiang Zhang[1], Jing Chen[1], Kim M. Cecil[2], Mario Medvedovic[1] and Alvaro Puga[1]

SUPPLEMENTAL FIGURE LEGENDS

Supplemental figure S1. Manhattan plot of $-\log_{10}$ *p*-values of the comparison of differential methylation across the mouse genome induced by lead acetate in the cortex of male and female mice. Note the significant hypomethylation of the X chromosome.

Supplemental figure S2. Gene expression analysis of 60 genes in hippocampus of female (A) and male (B) mice that show differential methylation after perinatal exposure to 3 ppm of lead. Levels of mRNA expression were determined by RT-qPCR, normalized to Gapdh expression and expressed relative to the corresponding level in untreated controls. Tissues from each mouse were processed individually and the data shown represent the mean ± SEM of three mice. (*) $p < 0.05$.

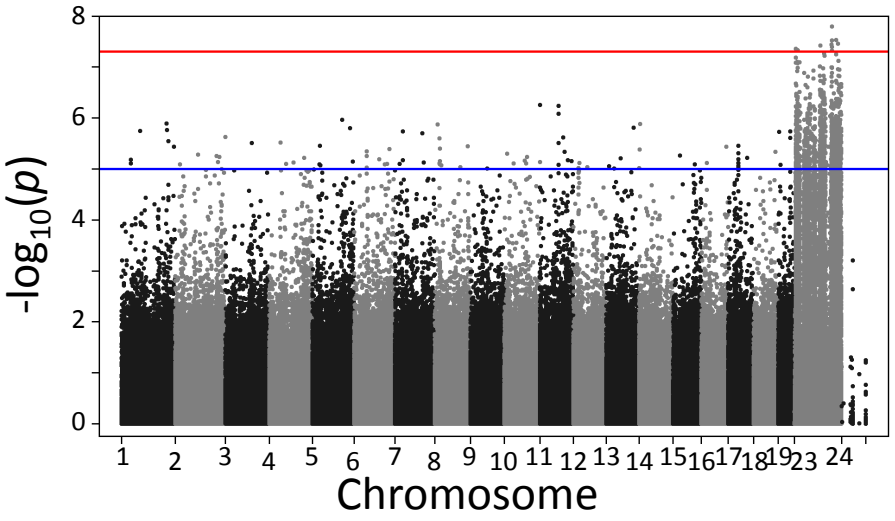
Supplemental figure S3. Integrative Genomic Viewer (IGV) view of the methylation status of the *Rn4.5s* gene. The methylation status of the *Rn4.5s* gene in hippocampus of male and female mice exposed to 3 or 30 ppm of lead and their corresponding controls are shown. The promoter of the *Rn4.5s* gene is shown inside the red box.

Supplemental figure S4. Integrative Genomic Viewer (IGV) view of the methylation status of the *Rn45s* gene. The methylation status of the *Rn4.5s* gene in hippocampus of male and female mice exposed to 3 or 30 ppm of lead and their corresponding controls are shown. The promoter of the *Rn45s* gene is shown inside the red box.

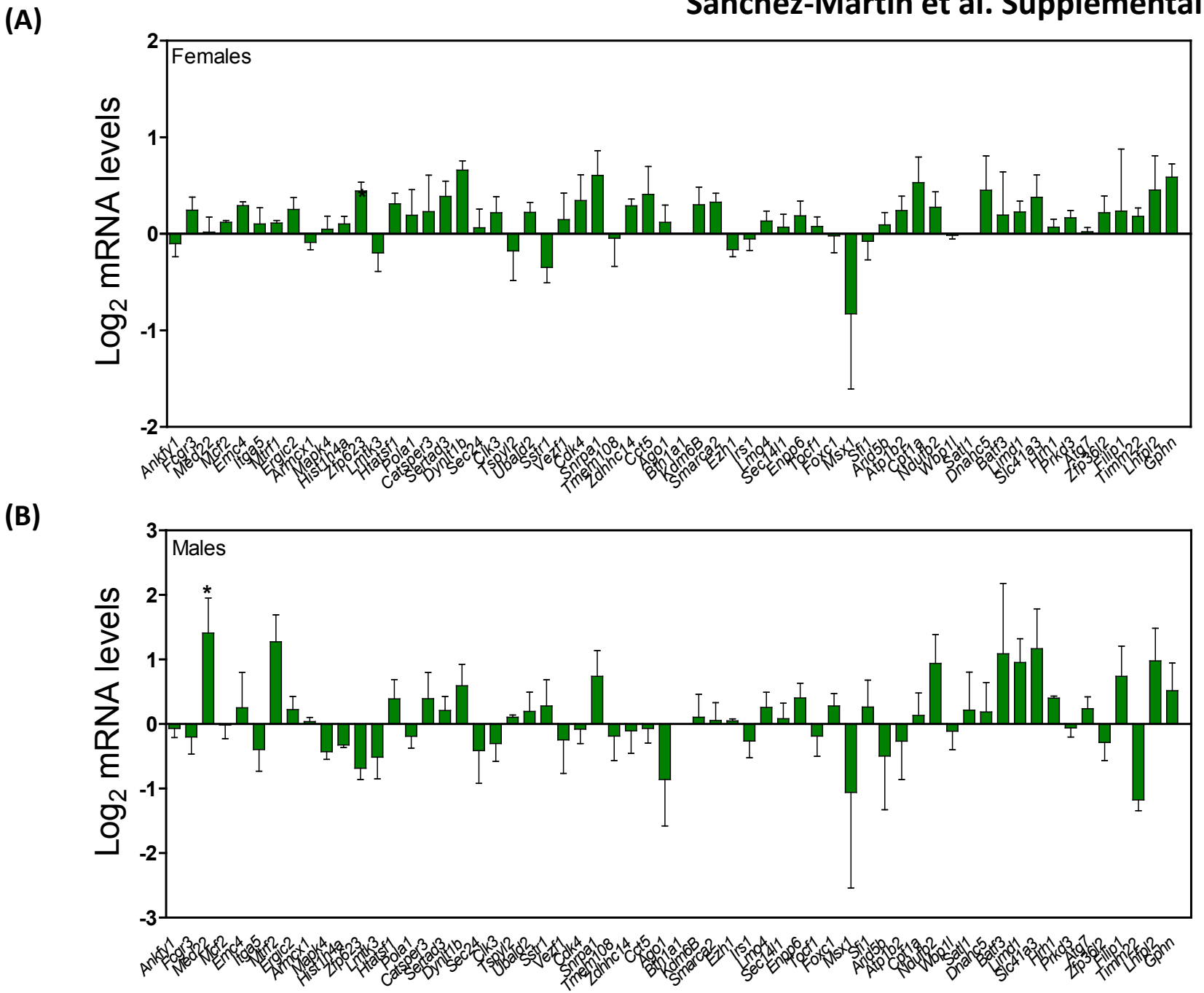
Supplemental figure S5. Integrative Genomic Viewer (IGV) view of the methylation status of the *Sfi1* gene. The methylation status of the *Sfi1* gene in hippocampus of male and female mice exposed to 3 or 30 ppm of lead and their corresponding controls are shown. The promoter of the gene *Sfi1* is shown inside the red box.

Supplemental figure 6. Integrative Genomic Viewer (IGV) view of the methylation status of the *Dynlt1b* gene. The methylation status of the *Dynlt1b* gene in hippocampus of male and female mice exposed to 3 or 30 ppm of lead and their corresponding controls are shown. The promoter of the gene *Dyntl1b* is shown inside the red box.

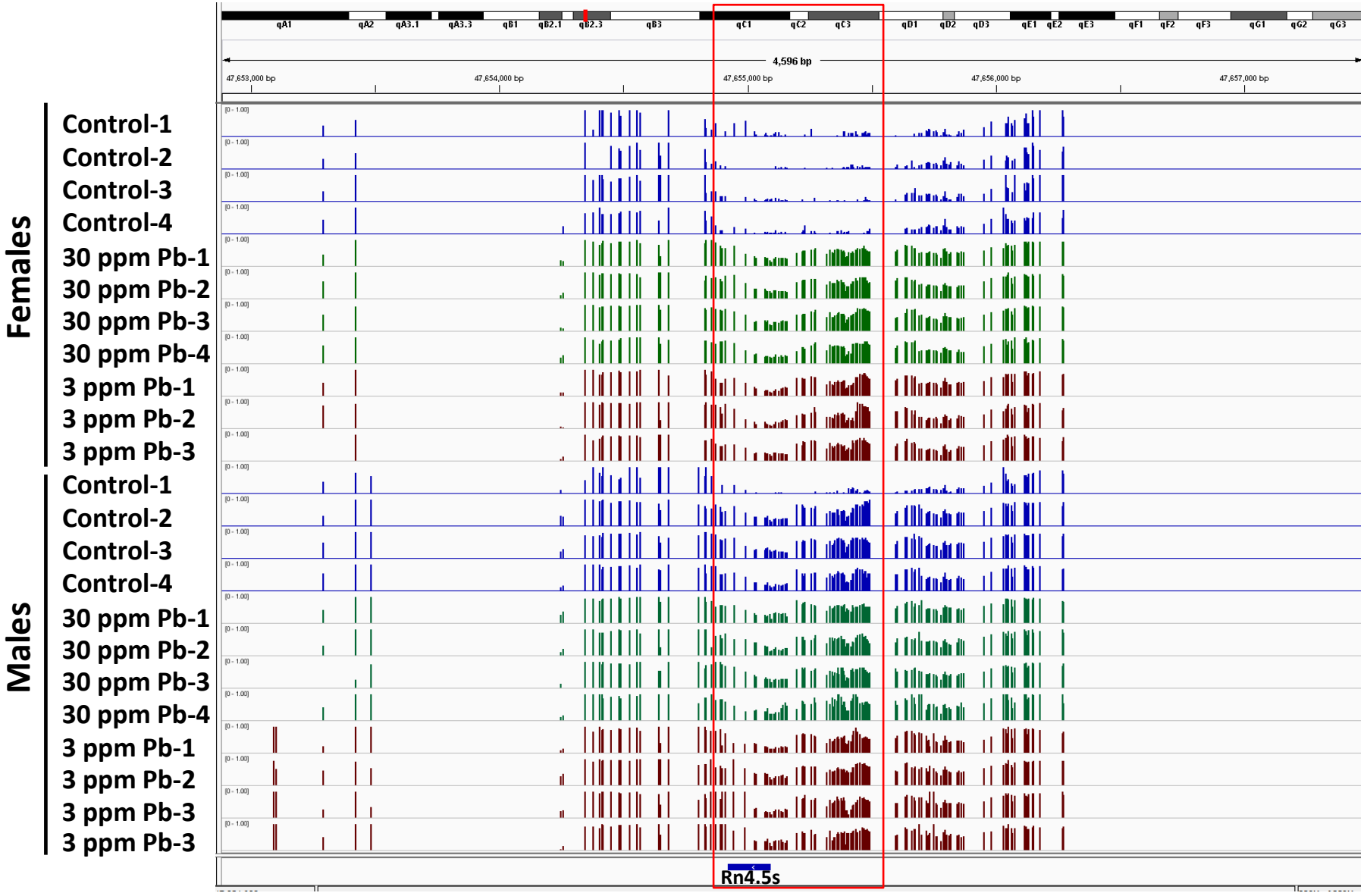
Sánchez-Martín et al. Supplemental figure S1



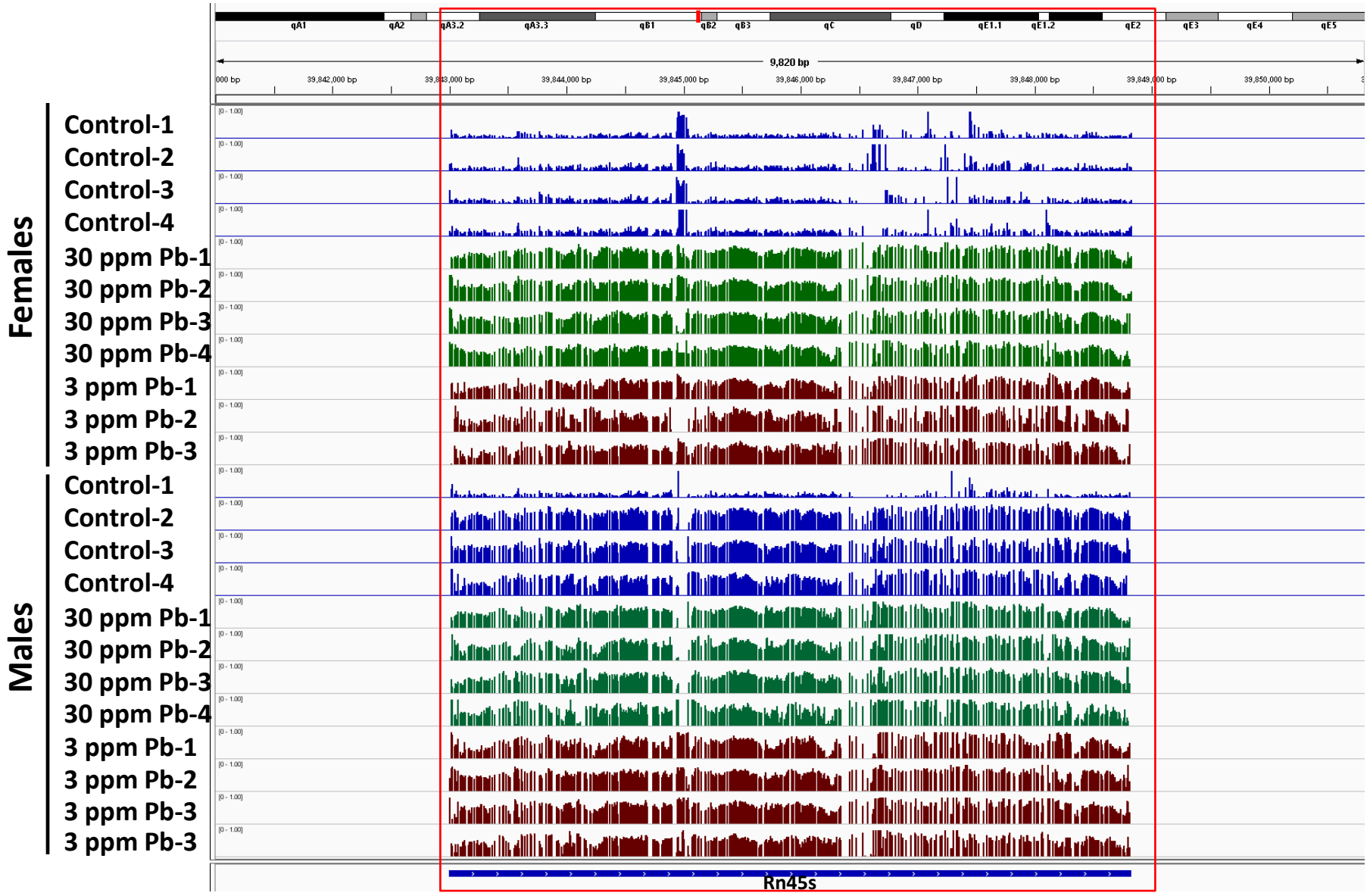
Sánchez-Martín et al. Supplemental figure S2



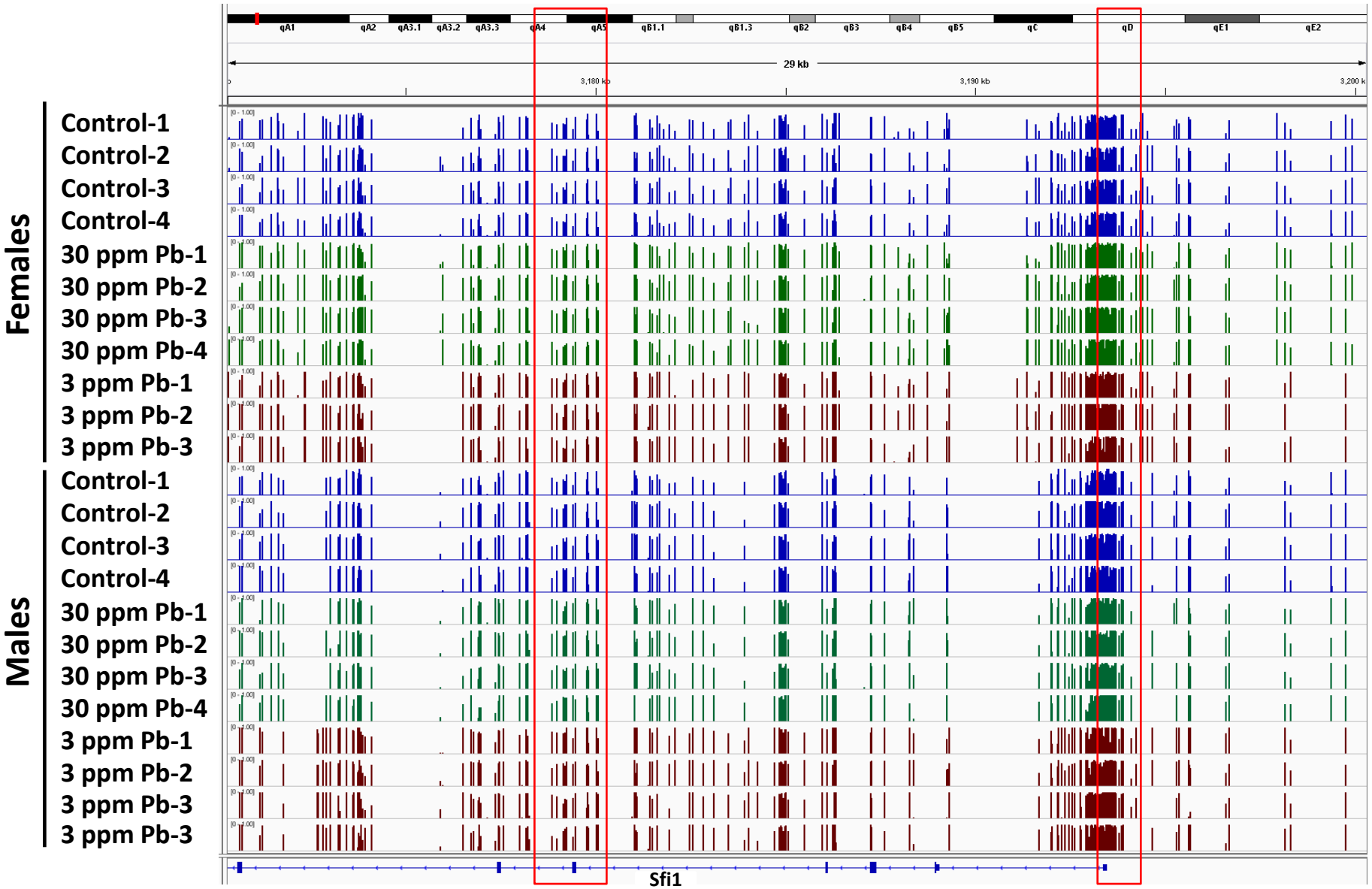
Sánchez-Martín et al. Supplemental figure S3



Sánchez-Martín et al. Supplemental figure S4



Sánchez-Martín et al. Supplemental figure S5



Sánchez-Martín et al. Supplemental figure S6