

## Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Gene expression  $\log_2$ (RPKM) values for genes showing differential expression (DESeq  $p < 0.01$ ) between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /D329A in adult mice hypothalamus.

File Name: Supplementary Data 2

Description: Gene ontology analysis (DAVID 6.7) of differentially expressed genes in adult mice hypothalamus.

File Name: Supplementary Data 3

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /D329A in adult mice hypothalamus.

File Name: Supplementary Data 4

Description: Domains showing differential methylation between Dnmt3a $\Delta$ /+ and Dnmt3a $\Delta$ /D329A in adult mice hypothalamus.

File Name: Supplementary Data 5

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /+ in adult mice hypothalamus.

File Name: Supplementary Data 6

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /D329A in adult mice pituitary.

File Name: Supplementary Data 7

Description: Domains showing differential methylation between Dnmt3a $\Delta$ /+ and Dnmt3a $\Delta$ /D329A in adult mice pituitary.

File Name: Supplementary Data 8

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /D329A in adult mice liver.

File Name: Supplementary Data 9

Description: Domains showing differential methylation between Dnmt3a $\Delta$ /+ and Dnmt3a $\Delta$ /D329A in adult mice liver.

File Name: Supplementary Data 10

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /+ in E7.5 Epiblast.

File Name: Supplementary Data 11

Description: Domains showing differential methylation between Dnmt3a<sup>+/+</sup> and Dnmt3a $\Delta$ /D329A in E7.5 Epiblast.

File Name: Supplementary Data 12

Description: Locations and methylation values of DNA canyons previously described by Jeong et al.60 in adult mouse hypothalamus.

File Name: Supplementary Data 13

Description: Gene ontology analysis (DAVID 6.8) of differentially methylated regions in adult mice hypothalamus.

File Name: Supplementary Data 14

Description: Locations of random probes used as representative of the whole genome.