

## **Title**

Maternal imprinting on cognition markers of wild type and transgenic Alzheimer's disease model mice

## **Authors**

Marta Zamarbide<sup>a,\*</sup>, Francisco Gil-Bea<sup>a</sup>, Paul Bannenberg<sup>a</sup>, Eva Martínez-Pinilla<sup>a</sup>, Juan Sandoval<sup>e</sup>, Rafael Franco<sup>b,c,+</sup>, Alberto Pérez-Mediavilla<sup>b,d,+</sup>

## **Author's address:**

<sup>a</sup> Neuroscience Department, Center for Applied Medical Research (CIMA). University of Navarra. Pamplona. Spain.

<sup>b</sup> Laboratory of Molecular Neurobiology. Department of Biochemistry and Molecular Biomedicine. Faculty of Biology. University of Barcelona. Barcelona. Spain.

<sup>c</sup> Centro de Investigación en Red, Enfermedades Neurodegenerativas (CIBERNED). Instituto de Salud Carlos III. Spain.

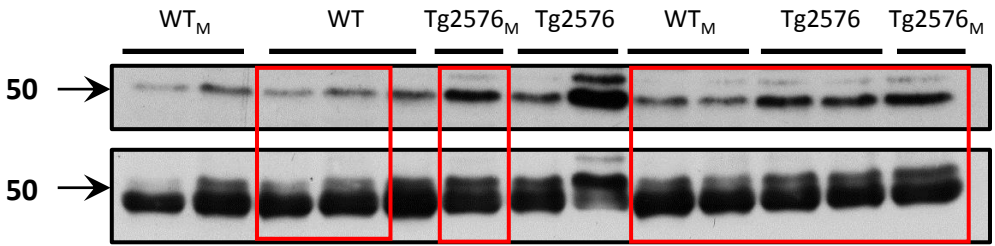
<sup>d</sup> Department of Biochemistry and Genetics. School of Sciences. University of Navarra

<sup>e</sup> Laboratory of personalized medicine. Epigenomics Unit. Medical Research Institute La Fe. Valencia. Spain

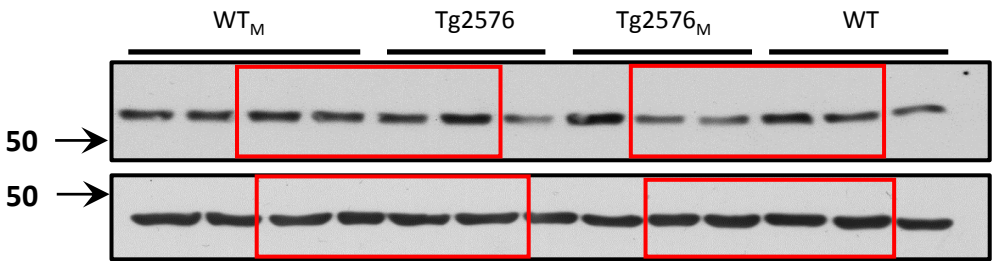
\* [zamarbidemarta@gmail.com](mailto:zamarbidemarta@gmail.com)

<sup>+</sup>These authors contribute equally to this work

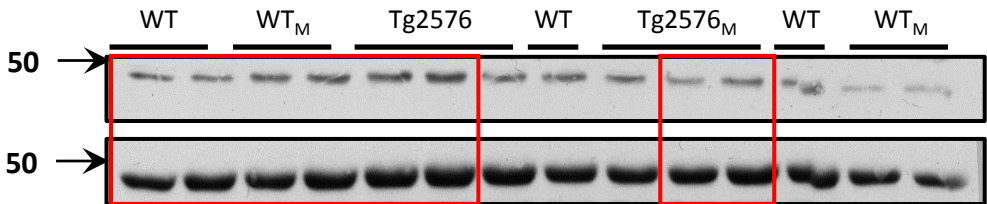
**Supplementary figure S1**



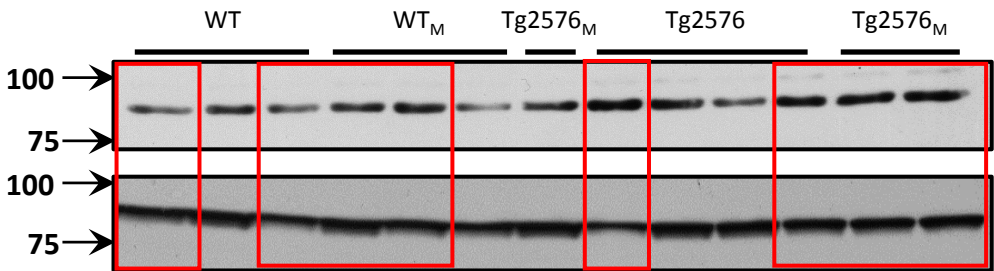
pTau and Tau expression in hippocampal membrane extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice



pAkt and actin expression in hippocampal membrane extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

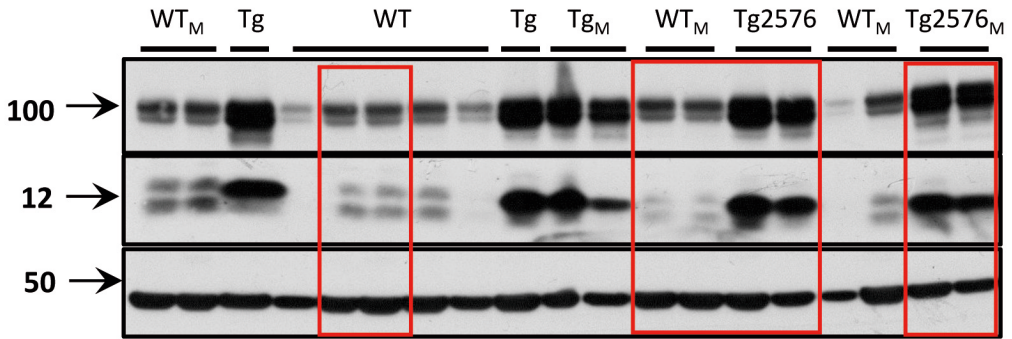


pGSK3β and GSK3β expression in hippocampal membrane extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice



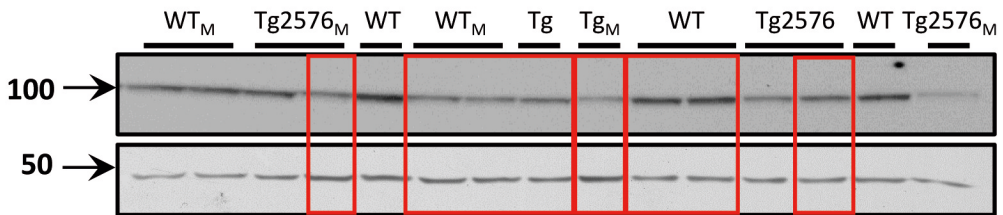
pβ-catenin and β-catenin expression in hippocampal membrane extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

**Supplementary figure S2**

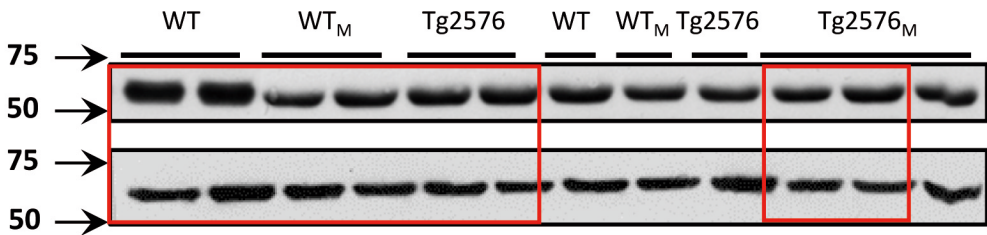


AβPP, C99, C83 and actin expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

**Supplementary figure S3**

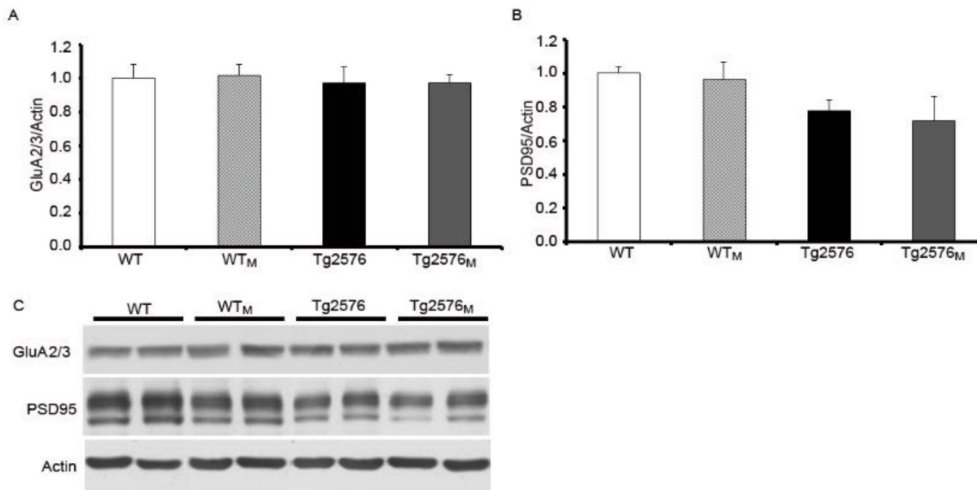


pGluA1 and actin expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice



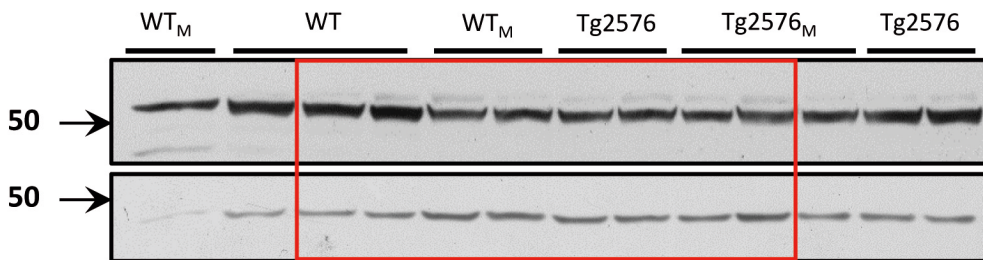
pCaMKII and CaMKII expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

### Supplementary figure S4



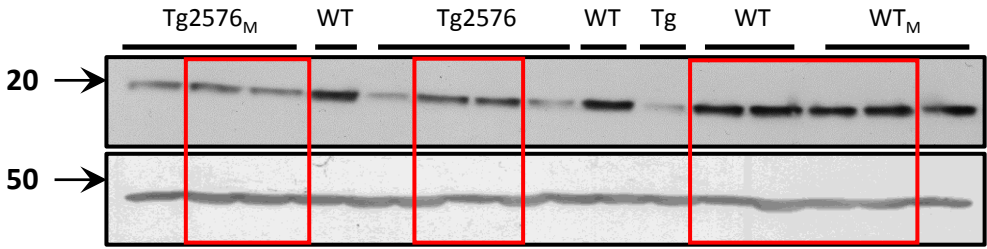
Effect of maternal transmission of non-genetic material on synaptic plasticity markers. The levels of synaptic markers in total protein cortical preparations from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice were analyzed by Western blot. We show a representative blot and the quantification of immunoreactive bands. The results (fold over control –WT–) are expressed as the mean ± SEM (n=6). Statistical significance was analyzed by two-way ANOVA. (A) Quantification of AMPA subunit GluA2/3 *versus* actin. (B) Quantification of cytoskeletal protein PSD95 *versus* actin. (C) Representative blots of AMPA subunit GluA2/3, PSD5 and actin.

### Supplementary figure S5

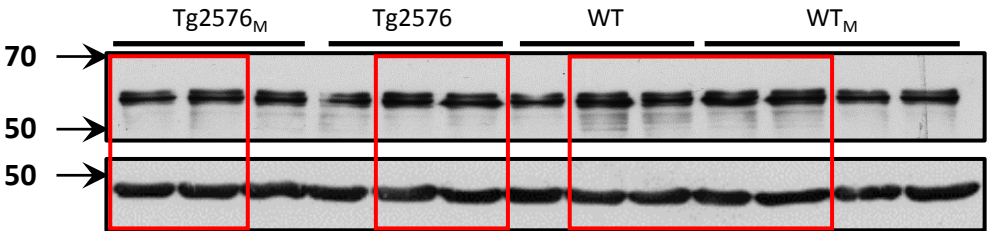


Arc and actin expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice



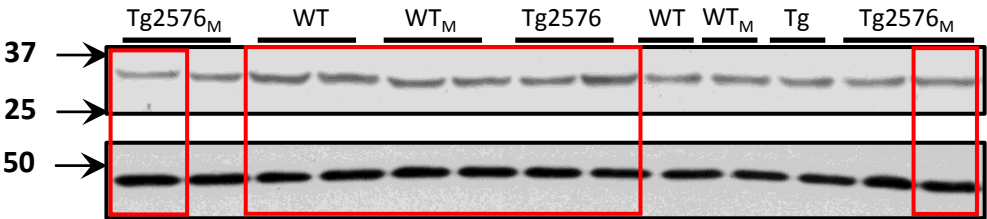


pCofilin and actin expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

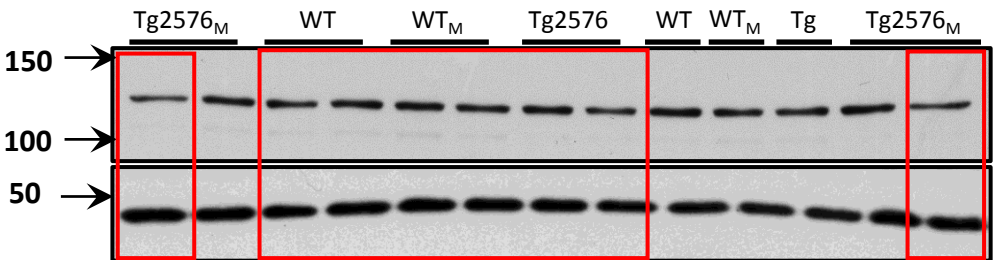


MAP2 and actin expression in cortical extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice

**Supplementary figure S6**



VDAC1 and actin expression in hippocampal extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice



HXK I and actin expression in hippocampal extracts from WT, WT<sub>M</sub>, Tg2576 and Tg2576<sub>M</sub> mice