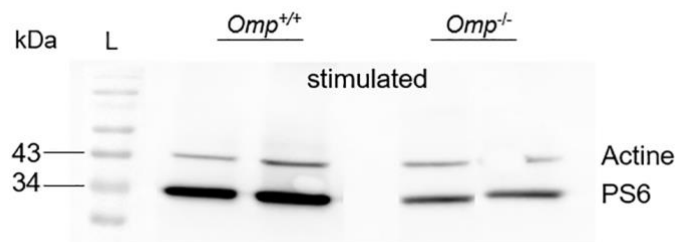


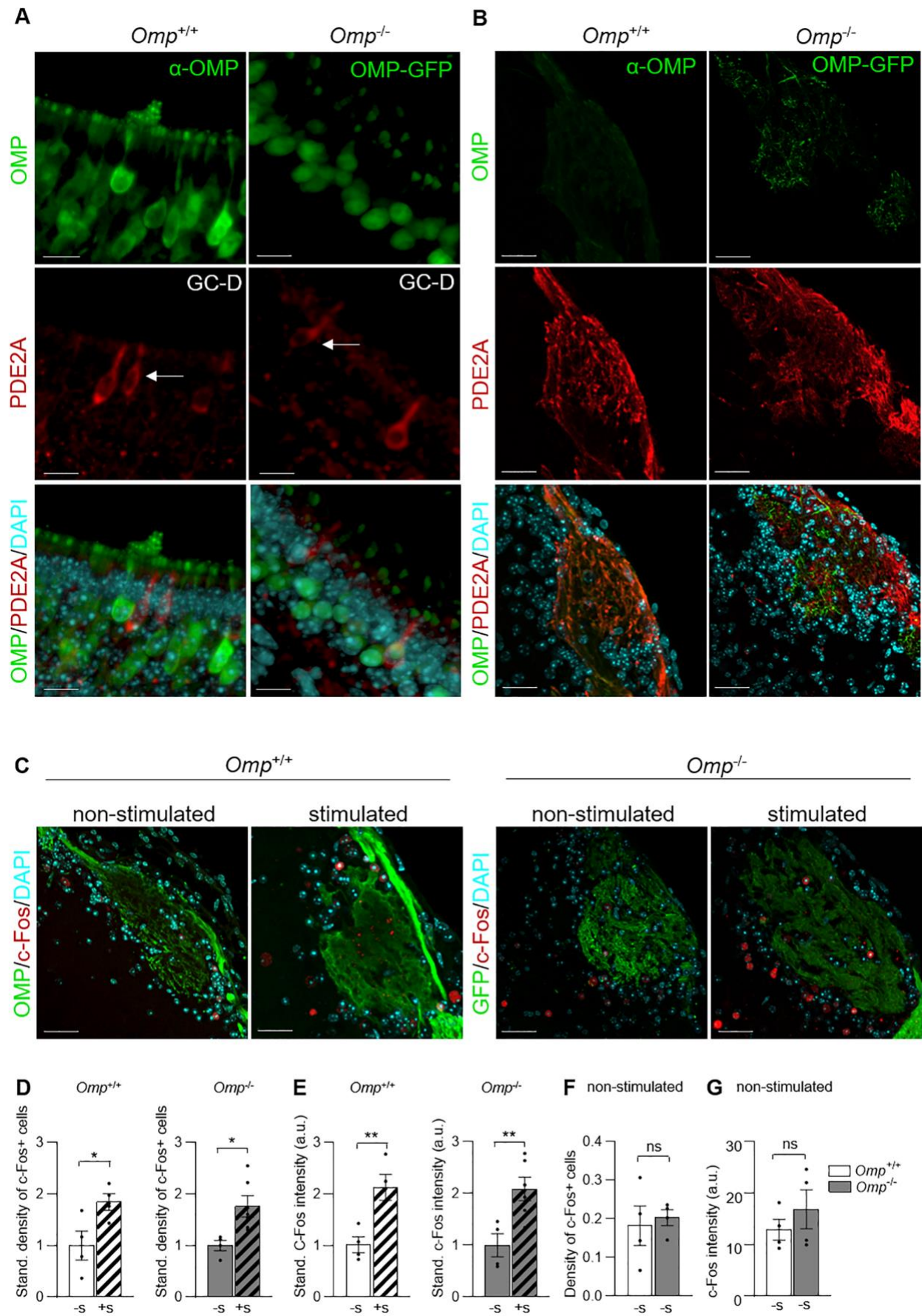
## Supplementary materials

### Food preference acquired by social transmission is altered by the absence of the olfactory marker protein in mice.

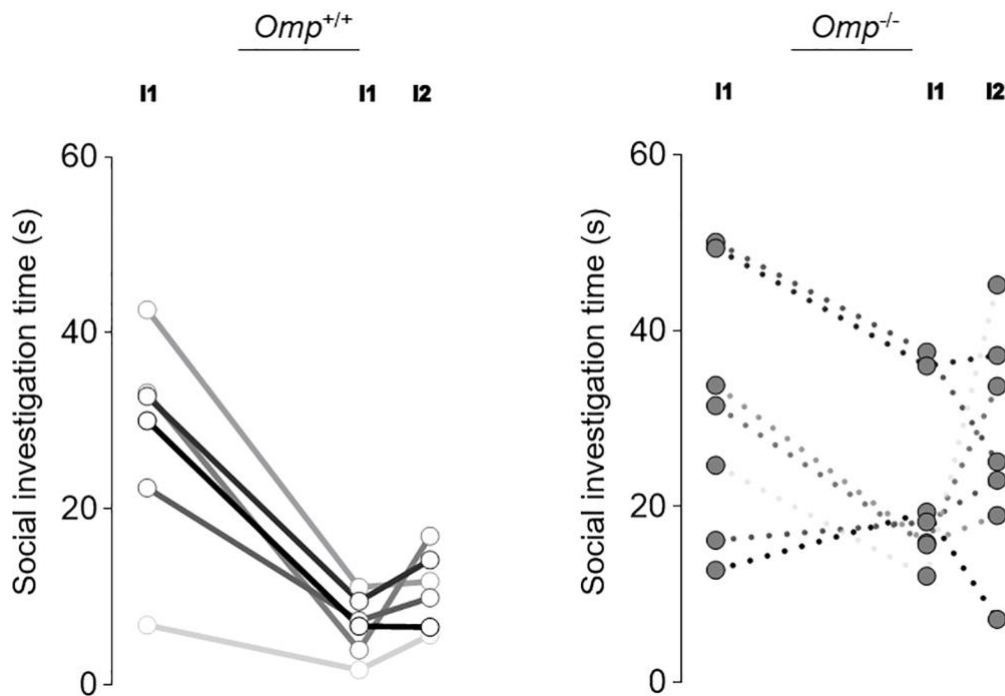
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**Supplementary Figure 1. Western blot analysis of phosphoserine 6 expression on MOE.** PS6 expression (32 kDa) and actine expression (43 kDa). Intensity difference of PS6/actine in *Omp*<sup>+/+</sup> and *Omp*<sup>-/-</sup> mice stimulated here with Cocoa. L, ladder.



**Supplementary Figure 2. GC-D circuitry is present and functional in OMP null mice.** GC-D circuitry is observed in both genotypes according to PDE2A stainings (red) in the MOE (A) and the OB (B). (C) GC-D circuitry is functional in both genotypes according to c-Fos stainings (red) observed here in specific necklace glomeruli after CS<sub>2</sub> stimulation (+S). (D-G) Statistical quantification of c-Fos signal in the necklace glomeruli of both genotypes. In green (A-C),  $\alpha$ -OMP showed the presence of OMP or its absence (GFP). In blue, the nuclei stained with DAPI. Scale bars: 10  $\mu$ m (A) and 30  $\mu$ m (B-C). N = 3-6 animals per genotype. Values obtained are represented as mean  $\pm$  SEM. Dot-plots representation in (D-E) are standardized to the non-stimulated condition (-S). For comparisons between genotypes, two-tailed Student's *t*-tests or Wilcoxon *w*-tests were used; for comparisons between condition (D-E), one-tailed paired Student's *t*-tests were used, \**p* < 0.05, \*\**p* < 0.01 and ns for non-significant.



**Supplementary Figure 3. Social memory and social discrimination in OMP null mice.** Detailed of individual performances displayed by *Omp*<sup>+/+</sup> (continuous lines) and *Omp*<sup>-/-</sup> (dashed lines) mice during the social discrimination test (Figure 4). The unilateral trend displayed by mice between the two Intruder 1 trials (I1 – I1) indicates the development of a social memory. The unilateral trend observed in mice between the second Intruder 1 trial and the Intruder 2 trial (I1 – I2) reflects the ability for social discrimination. Thus, *Omp*<sup>-/-</sup> show alteration in social discrimination. N = 6-7 animals per genotype.