Supplementary Information for

**Inhibition of formyl peptide receptors improved outcome in a mouse model of Alzheimer disease**

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Table S1

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**Fig. S1.** **Physical condition of animals is not affected neither in APP/PS1 mice nor by FPR ligands.** To analyze the animals physical condition we used the Morris water maze. The average speed [m/s] of the flagged trials were recorded for each animal. There were no differences regarding the condition between the groups (two-way ANOVA with Turkey’s post hoc test). The data represent mean + SEM, n>11.

**A**

**B**





**Fig. S2.** **Illustration of Morris water maze training trials** To investigate long-term memory we used the Morris water maze test. To analyze the learning process we used the latency time [s] of the training trials (1-12). Learning curves are separated for a better overview in A) WT group and B) in APP/PS1 mice group. The findings demonstrated that the animals improved their performance over one day (trial 1-6). Data represent mean + SEM; n > 11.



**Fig. S3. Quantification of amyloid-β 1-42 phagocytosis of microglial cells by flow cytometry.** Cells were isolated from adult mice brains 3h after intraperitoneal injection of methoxy-04. Exemplary graphs of each group shows the evaluation of the phagocytosis rate (Q2).



**Fig. S4 FPR modulation does not affect astrocytes in APP/PS1 mice A)** GFAP positive cells/mm² in the hippocampus where increased from WT control to APP/PS1 control mice.**B)** Also in the cortex we could see the same increased amount of GFAP positive cells in APP/PS1 control mice compared to WT control (n>15) **C)** Exemplary anti-GFAP staining’s of WT, APP/PS1 and APP/PS1+Boc2 mice in the cortex. **D)** Relative expression of *Gfap* mRNA in the hippocampus showed no differences but **E)** in the cortex we detected an increased *Gfap* mRNA expression in APP/PS1 control mice (n>6, ). *Scale bar* **c** 50 µm. Shown are the mean values of each group with SEM. Two-way ANOVA with turkey test \*p <0.05 \*\*p<0.01 \*\*\*p<0.001 \*\*\*\*p<0.0001

Table S1. Used primer pairs with sequences, specific annealing temperature and supplier information.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Sequences (5’ -> 3’)** | **Annealing temp.** | **Supplier** |
| Itgam | QT00101145 | 55 °C | Qiagen |
| GFAP | QT00156471 | 55 °C | Qiagen |
| IDE | for’ CCGGCCATCCAGAGAATAGAA (21)rev’ ACGGTATTCCCGTTTGTCTTCA (22) | 57°C | Eurofins |
| NEP | for’ CAGCCTCAGCCGAAACTAC (19)rev’ CACCGTCTCCATGTTGCAGT (20) | 57°C | Eurofins |
| 18s | for’ GAATAATGGAATAGGACCGCGG (22)rev’ AAGAATTTCACCTCTAGCGGCG (22) | 57°C | Eurofins |
| NGF | for’ ACCACAGCCACAGACATCAAGG (22)rev’ GGTTAGGACAACTCTCACCCAC (22) | 55°C | Eurofins |
| BDNF | for’ AAAGTCCCGGTATCCAAAGGC (21)rev’ TAGTTCGGCATTGCGGAGTTCC (22) | 57°C | Eurofins |
| TrkB | for’ CGCCCTGTGAGCTGAACTCTG (21)rev’ CTGCTTCTCAGCTGCCTGACC (21) | 60°C | Eurofins |
| GDNF | for’ GGGCCTGAGGTCTATTACATC (21)rev’ GTTTCTGAGGGCACGAAGGAG (21) | 58°C | Eurofins |
| TBP | for’ AGAACAATCCAGACTAGCAGCA (21)rev’ GGGAACTTCACATCACAGCTC (21) | 59.5°C | Eurofins |
| RPL13A | for’ GGGCAGGTTCTGGTATTGGAT (21)rev’ GGCTCGGAAATGGTAGGGG (19) | 60.5°C | Eurofins |