Supplementary Data

1α,25-Dihydroxyvitamin D₃ and Resolvin D1 Retune the Balance between Amyloid-β Phagocytosis and Inflammation in Alzheimer’s Disease Patients


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Supplementary Figure 1. 1,25D3 and RvD1 recover Aβ phagocytosis by macrophages of AD patients. The pictures obtained following the treatment of AD macrophages from the five AD patients and a control subject with FAM-Aβ and the effect of 1,25D3 and RvD1 on binding and uptake of FAM-Aβ (green). The cytoskeleton in each figure panel is stained red and the nucleus blue.
Supplementary Figure 2. Effects of exogenous sA/H9252 and fA/H9252 on the expression of inflammatory and autoimmune genes in AD patients and controls. A) A volcano plot demonstrates the effects of sA/H9252 in the group 1 patient PBMCs (n=3) compared to control PBMCs (n=3). B) A volcano plot demonstrates how group 2 AD PBMCs (n=3) treated with sA/H9252 compared to control PBMCs treated with sA/H9252 (n=3). C) Scatter plot and heat map of the greater pro-inflammatory effect of 2 μg/ml fA/H9252 (n=3) in group 1 AD PBMCs when compared to 2 μg/ml sA/H9252 (n=3). D) Effect of sA/H9252 on the baseline expression of nuclear receptors and transcriptional co-regulators in group 1 AD PBMCs (n=2).
Supplementary Figure 3. Effects of RvD1 on transcription in group 2 AD, patient 1. A) A volcano plot demonstrating that RvD1 significantly downregulated the expression of a number of different cytokines upregulated by sAbeta in patient 1 (n = 3), a group 2 AD patient (Table 1). B) Scatter plot demonstrating that 26 nM RvD1 does not down regulate the transcription of nuclear receptors and co-regulators stimulated by exogenous sAbeta. C) A volcano plot demonstrating the impact of co-incubating PBMCs overnight with fAbeta on the effect of RvD1 in patient 1 PBMCs.
Supplementary Figure 4. Effects of 1,25D3 on transcription in group 2 AD, patient 1. A) A heat map demonstrating that 1,25D3 has a more potent down regulatory effect when compared to RvD1 in PBMCs co-incubated with sAbeta patient 1 (n=2 for each group). The array layout for the heat map is provided under the figure panels. B) Scatter plot that demonstrates the effect 10 nM 1,25D3 has on the transcription of nuclear receptors and co-regulators when co-incubated with sAbeta.