

Supplemental Data

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Arachidonic acid directly activates the human DP2 receptor

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Supplemental Figures

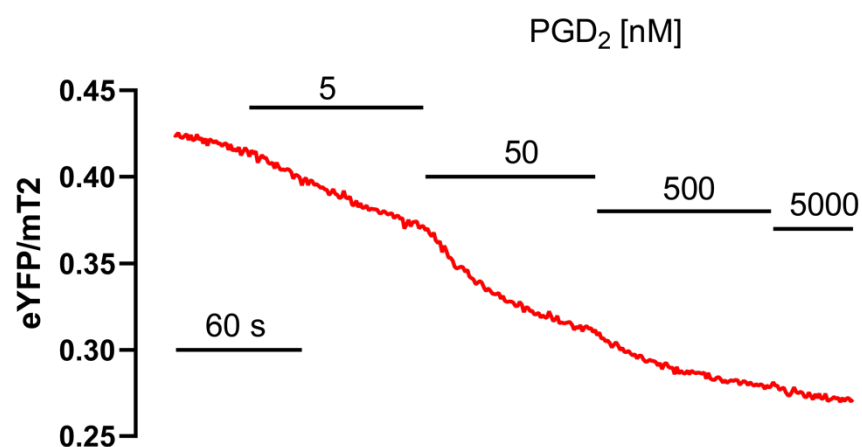


Fig. S1 Trace without correction for photobleaching corresponding to the trace shown in Figure 1B.

The single cell FRET measurement of a HEK293 cell expressing the DP2 receptor-sensor was performed at the microscope under continuous superfusion using a pressurized perfusion system.

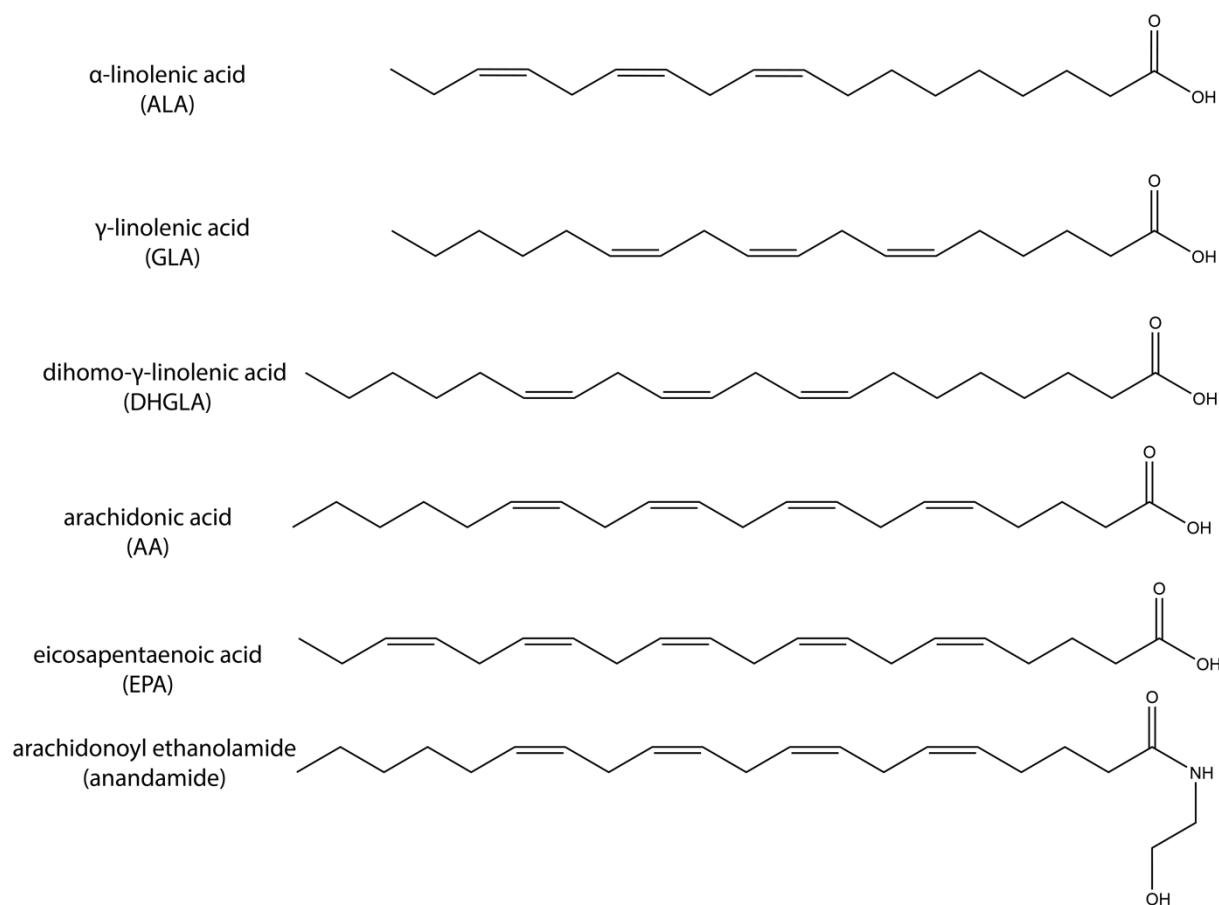


Fig. S2 Chemical structures of the tested polyunsaturated fatty acid (PUFAs)

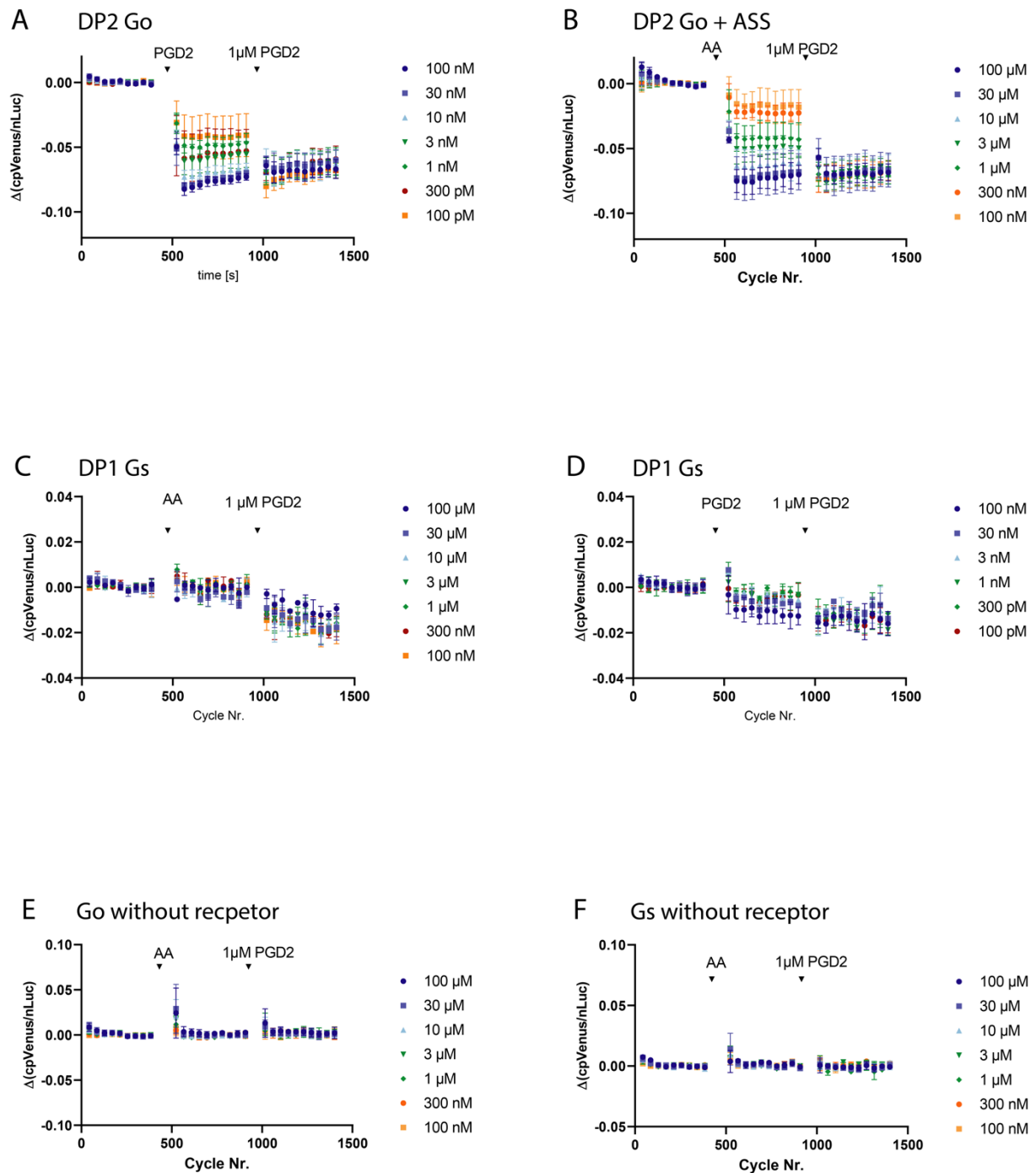


Fig. S3 (A-B) BRET measurement of HEK293T cells transfected with DP2 receptor and $G\alpha_o$ -activity sensor. Different concentrations of PGD₂ (A) or AA with the COX-inhibitor ASS present (B) were applied after cycle 10, reference concentration of 1 μM PGD₂ was applied after cycle 20. n=6 individual experiments measured in three technical replicates for each condition per data point, mean \pm SD. (C-D) BRET measurement of HEK293T cells transfected with DP1 receptor and $G\alpha_s$ -activity sensor. Different concentrations of AA (C) or PGD₂ (D) were applied after cycle 10, reference concentration of 1 μM PGD₂ was applied after cycle 20. n=4 individual experiments measured in three

technical replicates for each condition per data point, mean \pm SD. (E-F) BRET measurement of HEK293T cells transfected with $G\alpha_o$ -activity sensor (E) or $G\alpha_s$ -activity sensor (F) with no receptor present. Different concentrations of AA were applied after cycle 10, reference concentration of 1 μ M PGD₂ was applied after cycle 20. n=4 (E) or n=2 (F) individual experiments measured in three technical replicates for each condition per data point, mean \pm SD.

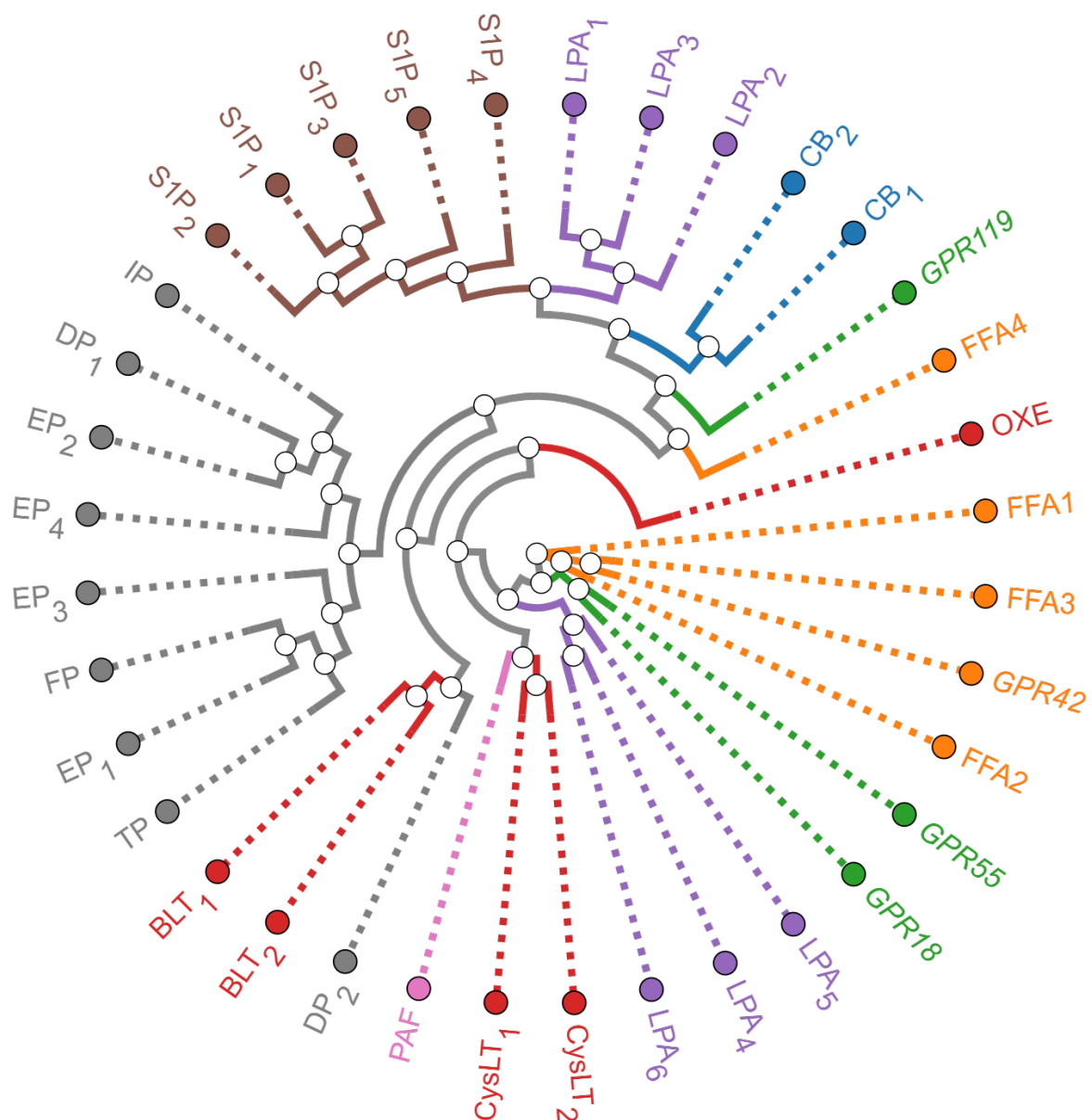


Fig. S4 Depicted is a phylogenetic tree of class A lipid GPCRs generated using GPCRdb.org. The closest relatives of the DP2 receptor are not the other prostanoid receptors IP, DP1, EP1-EP4, FP and TP but the leukotriene receptors BLT1 and BLT2.