

Table S1

	WBC [x10³/μL]	RBC [x10⁶/μL]	HGB [g/dL]	HCT [%]	MCV [fL]	MCH [pg]	MCHC [g/dL]	PLT [x10³/μL]
WT	1.58 (0.19)	7.09 (0.21)	10.05 (0.37)	30.50 (1.16)	43.03 (0.90)	14.15 (0.31)	32.95 (0.13)	985.50 (88.47)
WT+EPA	1.80 (1.41)	7.10 (0.39)	9.85 (0.60)	29.90 (1.62)	42.15 (0.24)	13.90 (0.29)	32.93 (0.51)	905.00 (154.82)
TG	1.45 (0.33)	7.14 (0.43)	9.93 (0.70)	30.08 (1.80)	42.13 (0.60)	13.90 (0.35)	32.98 (0.39)	861.75 (183.82)
TG+EPA	2.08 (0.73)	7.19 (0.38)	10.02 (0.54)	30.22 (1.67)	42.04 (0.82)	13.92 (0.33)	33.14 (0.13)	835.60 (165.67)

Table S1. General blood analysis via an automated hematology analyzer (Sysmex pocH-100iV Diff; Sysmex Europe GmbH). Abbreviations: WBC – white blood cells; RBC – red blood cells; HGB – hemoglobin; HCT - hematocrit; MCV - mean corpuscular volume; MCH - mean corpuscular hemoglobin; MCHC - mean corpuscular hemoglobin concentration; PLT – platelets

Figure S1 - platelet activation and plasma lipid mediators

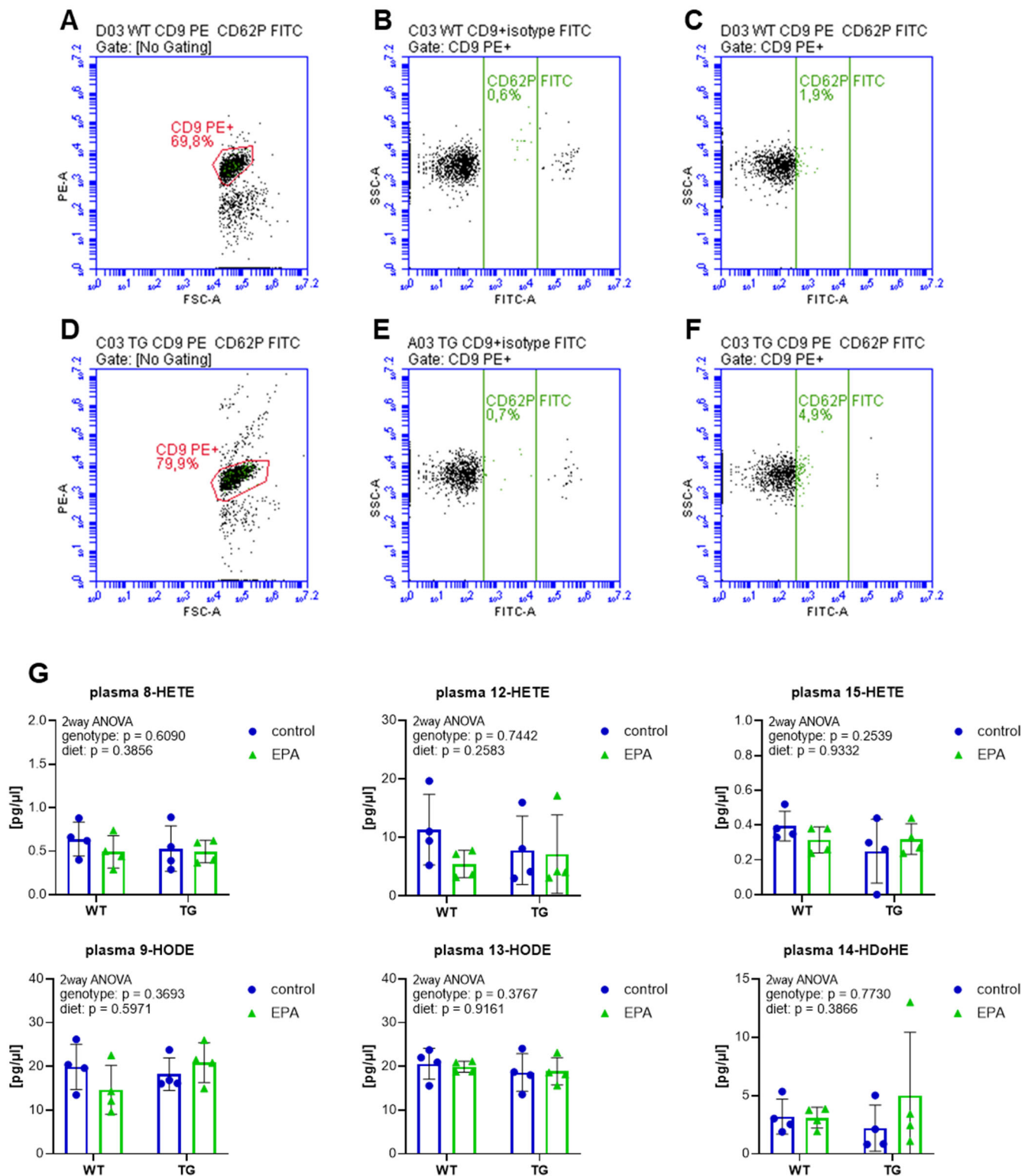


Figure S1 – platelet activation and plasma lipid mediators; (A-F) Platelets activation was assessed via flow cytometry in WT (A-C) and TG (D-F) mice. CD9 was used to gate for platelets (A+D) and a threshold for platelet activation, based on the FITC isotype (B+E) was set for the activation marker CD62P (C+F). (G) Quantification of plasma eicosanoids. Two-way ANOVA for main diet and genotype effects was performed. A 95% confidence interval was used and p-values less than 0.05 are considered significant. Graphs are presented as mean $\pm$ standard deviation with all data points shown.

Figure S2 – retinal gene expression

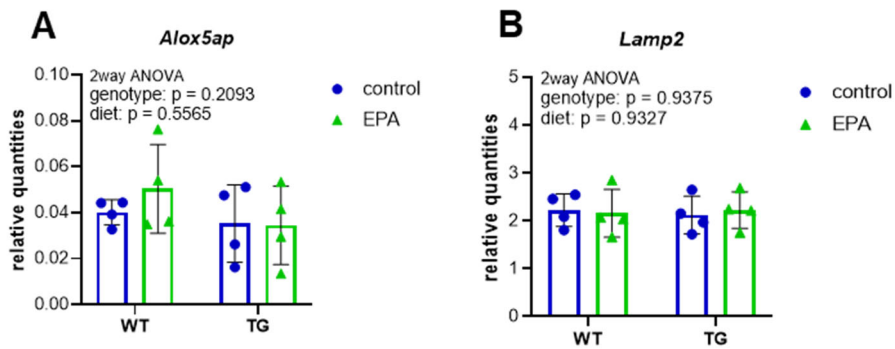


Figure S2 – retinal gene expression; Retinal gene expression of *Alox5ap* (A) and *Lamp2* (B) was analyzed with RT-qPCR. Graphs show gene expression relative to housekeeping genes. Two-way ANOVA for main diet and genotype effects was performed. A 95% confidence interval was used and p-values less than 0.05 are considered significant. Graphs are presented as mean $\pm$ standard deviation with all data points shown.

Figure S3 – hippocampal vascular integrity

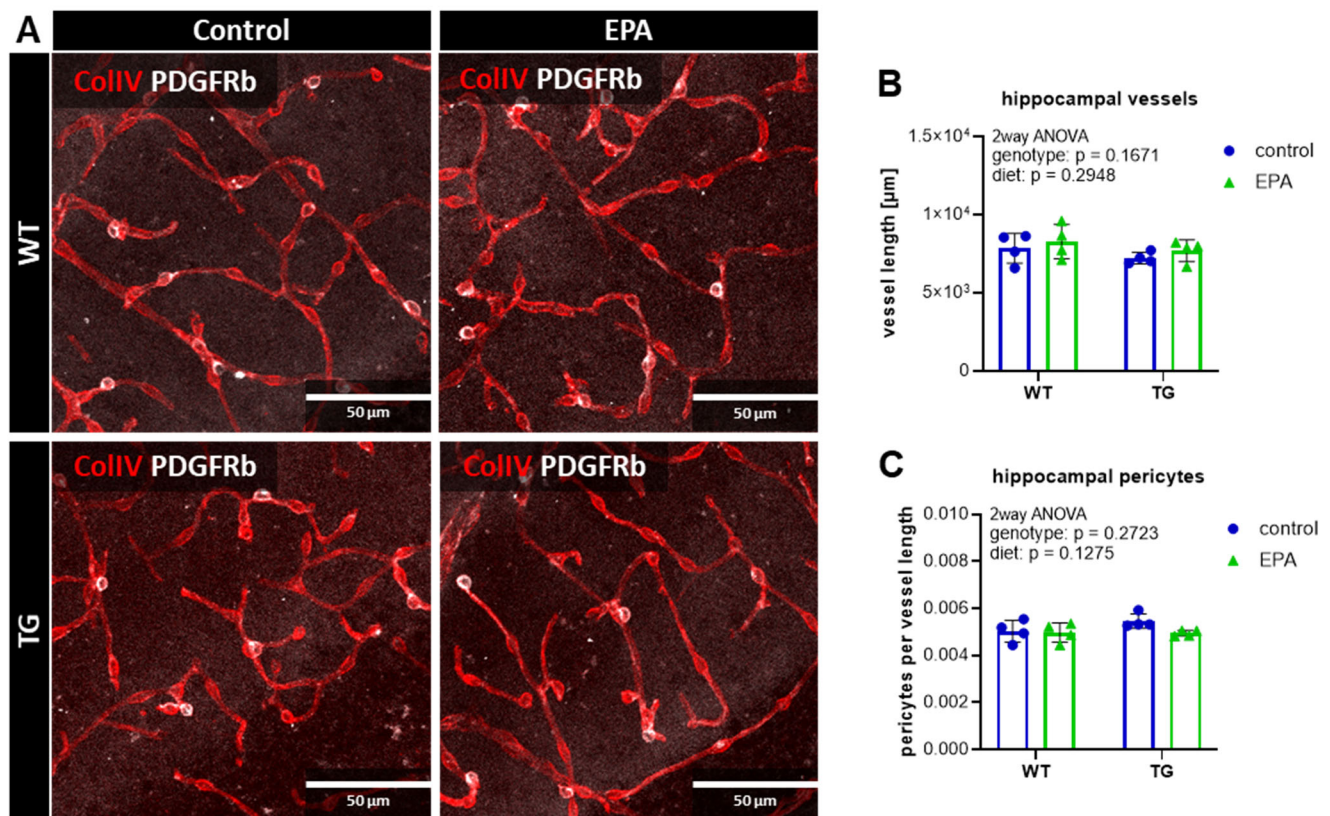


Figure S3 – hippocampal vascular integrity; (A) Representative hippocampal sections immunohistochemically stained with Collagen IV (ColIV) for blood vessels (in red) and platelet-derived growth factor receptor beta (PDGFRb) for pericytes (in white), scale size is 50 μm . (B) Total length of retinal capillaries per field of view. (C) Pericyte count per vessel length. (B+C) Two-way ANOVA for main diet and genotype effects was performed with a 95% confidence interval. P-values less than 0.05 are considered significant. Graphs are presented as mean $\pm$ standard deviation with all data points shown.

Figure S4 - hippocampal lipid mediators

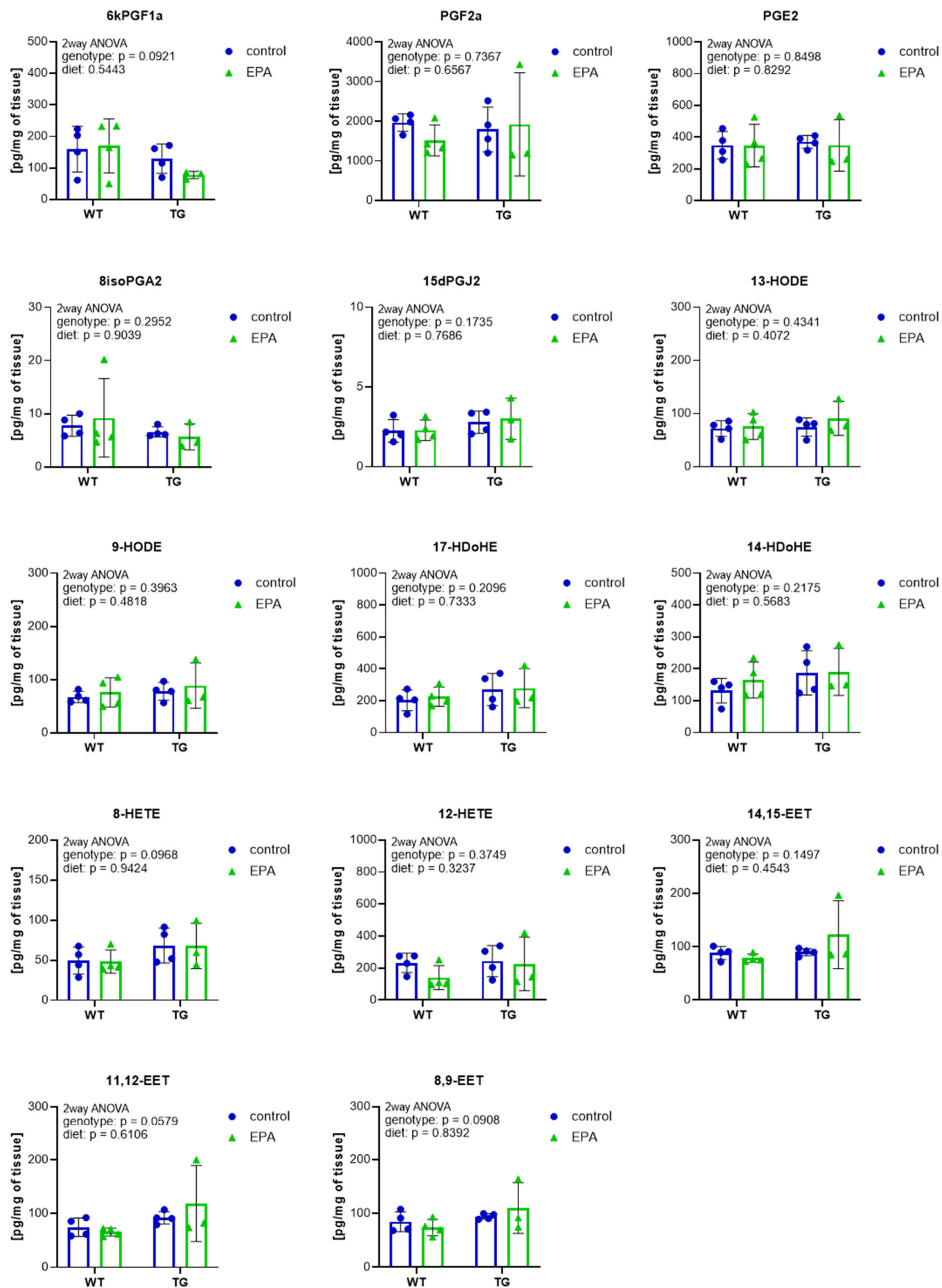


Figure S5 – microglial phagocytosis

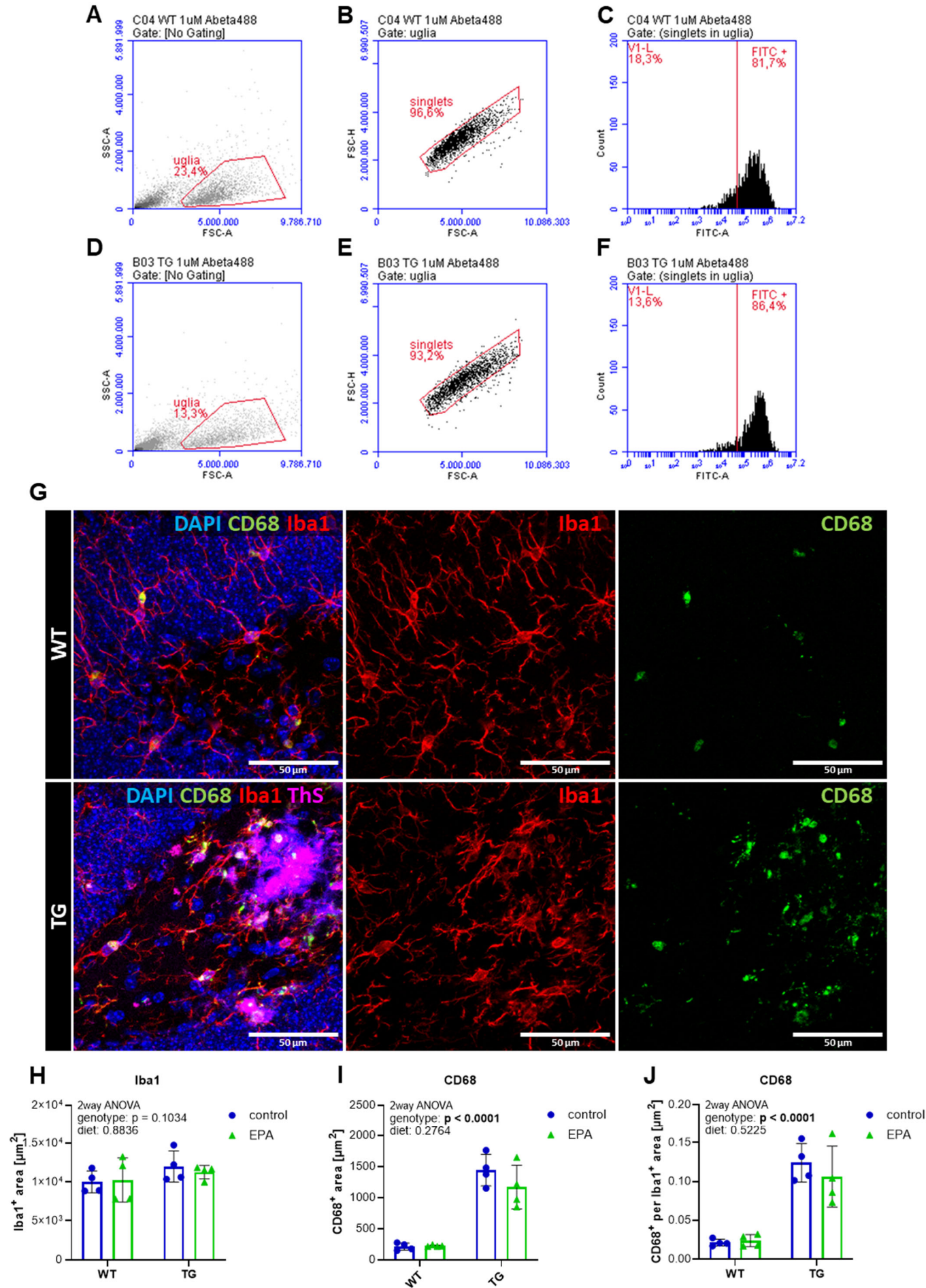


Figure S6 - A β -plaque pathology

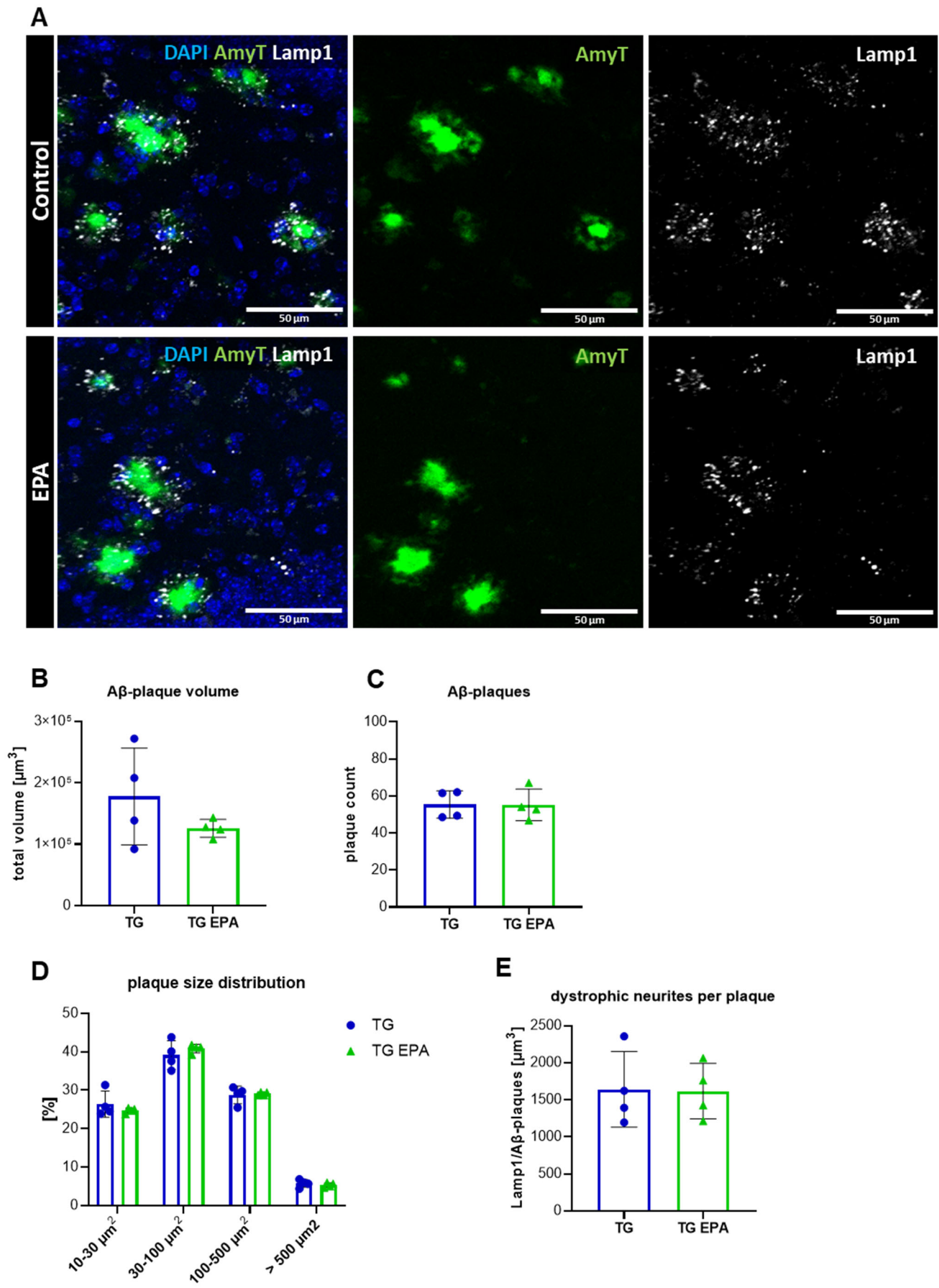


Figure S4 – hippocampal lipid mediators; Quantification of hippocampal eicosanoids. Two-way ANOVA for main diet and genotype effects was performed with a 95% confidence interval. P-values less than 0.05 are considered significant. Graphs are presented as mean $\pm$ standard deviation with all data points shown.

Figure S5 – microglial phagocytosis; (A-F) Phagocytosis of fluorescence labeled amyloid peptide (A β -488) by adult primary microglia from WT (A-C) and TG (D-F) mice was measured via flow cytometry. (A-B+D-E) Gating strategy for microglial cells. (C+F) Threshold setting for phagocytosing cells based on negative control without added A β -488 (not shown). (G) Representative hippocampal sections immunohistochemically stained with 4',6-diamidino-2-phenylindole (DAPI) for cell nuclei (in blue), calcium-binding adapter molecule 1 (Iba1) for microglia (in red), cluster of differentiation 68 (CD68) (in green) and Thioflavin S for amyloid beta plaques (in magenta); scale size is 50 μ m. (H) Total area of Iba1 immune reactive area per field of view. (I) Total area of CD68 immune reactive area per field of view. (J) CD68+ area normalized to Iba1+ area. (H-J) Two-way ANOVA for main diet and genotype effects was performed with a 95% confidence interval. P-values less than 0.05 are considered significant. Graphs are presented as mean $\pm$ standard deviation with all data points shown.

Figure S6 – A β -plaque pathology; (A) Representative hippocampal sections of TG mice immunohistochemically stained with 4',6-diamidino-2-phenylindole (DAPI) for cell nuclei (in blue), Amytracker 520 (AmyT) for A β -plaques (in green) and lysosomal-associated membrane protein 1 (Lamp1) for dystrophic neurites (in white); scale size is 50 μ m. Total plaque volume (B) and count (C) analysis performed with Imaris software. (D) Analysis of plaque size (area) distribution in the whole hippocampus, performed with ImageJ. Two-way ANOVA for main diet effects was performed with a 95% confidence interval, but was not significant. (E) Lamp1+ volume was measured as indicator for dystrophic neurites and normalized to plaque volume. (B,C,E) Student's test with a 95% confidence interval was performed, without showing significant differences.