TABLES

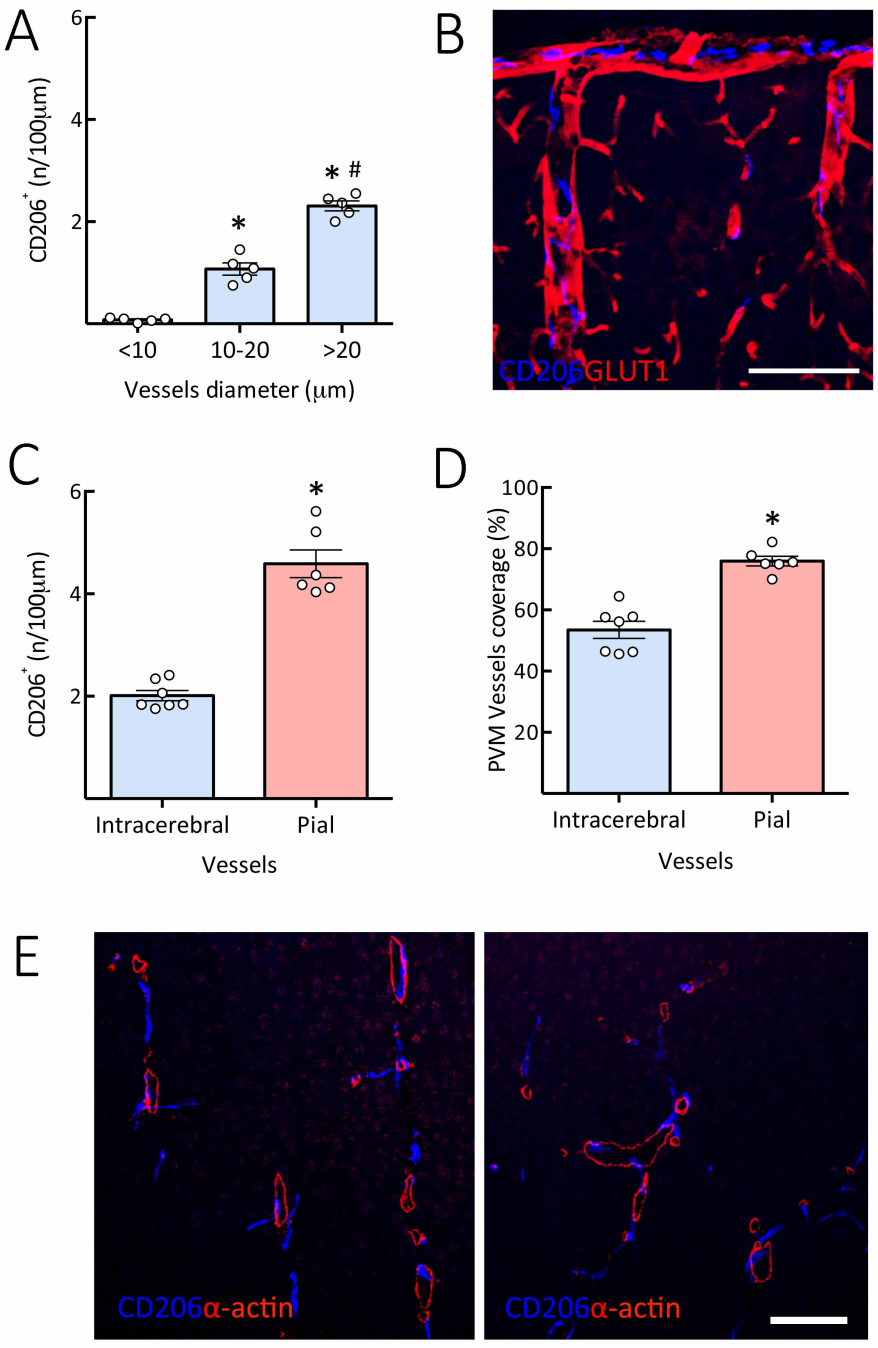
	Vehicle		ANGII	
	Vehicle	Clodronate	Vehicle	Clodronate
ANGII 14 days	22.6±2.0	22.1±0.9	22.1±2.0	21.2±1.5
ANGII iv	22.7±2.3	23.3±1.7	24.1±2.4	22.3±0.8
ANGII topical	22.6±2.0	22.1±1.3	23.7±2.1	22.3±1.6

	Vehicle		ANGII	
	WT→WT	$AT1R^{-/-}$→WT	WT→WT	$AT1R^{-/-}$→WT
ANGII 14 days	24.0±1.2	28.3±0.5	26.2±1.5	25.9±1.6
ANGII topical	25.3±1.1	27.7±0.7	23.6±0.8	28.0±1.6
Aβ topical	23.8±1.3	28.1±3.5	21.9±2.3	26.9±3.3

	Vehicle		ANGII	
	WT→WT	$NOX2^{-/-}$→WT	WT→WT	$NOX^{-/-}$→WT
ANGII 14 days	25.5±1.4	22.4±4.2	25.0±2.6	23.3±1.2

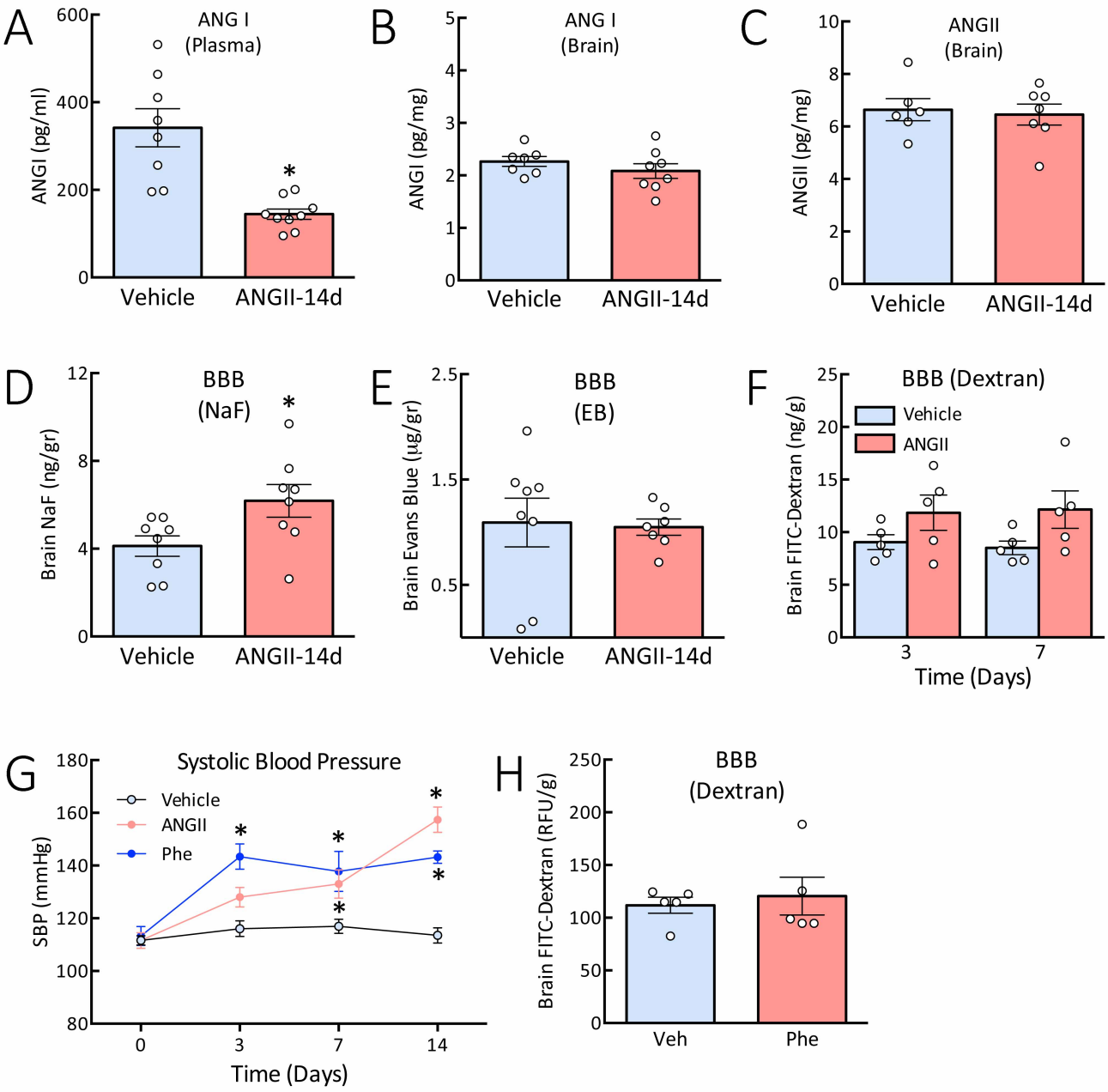
	Control		BPH2J	
	Vehicle	Clodronate	Vehicle	Clodronate
	23.8±1.7	21.8±3.8	23.2±1.8	22.9±1.9

Supplementary Table. CBF responses to neocortical adenosine administration.



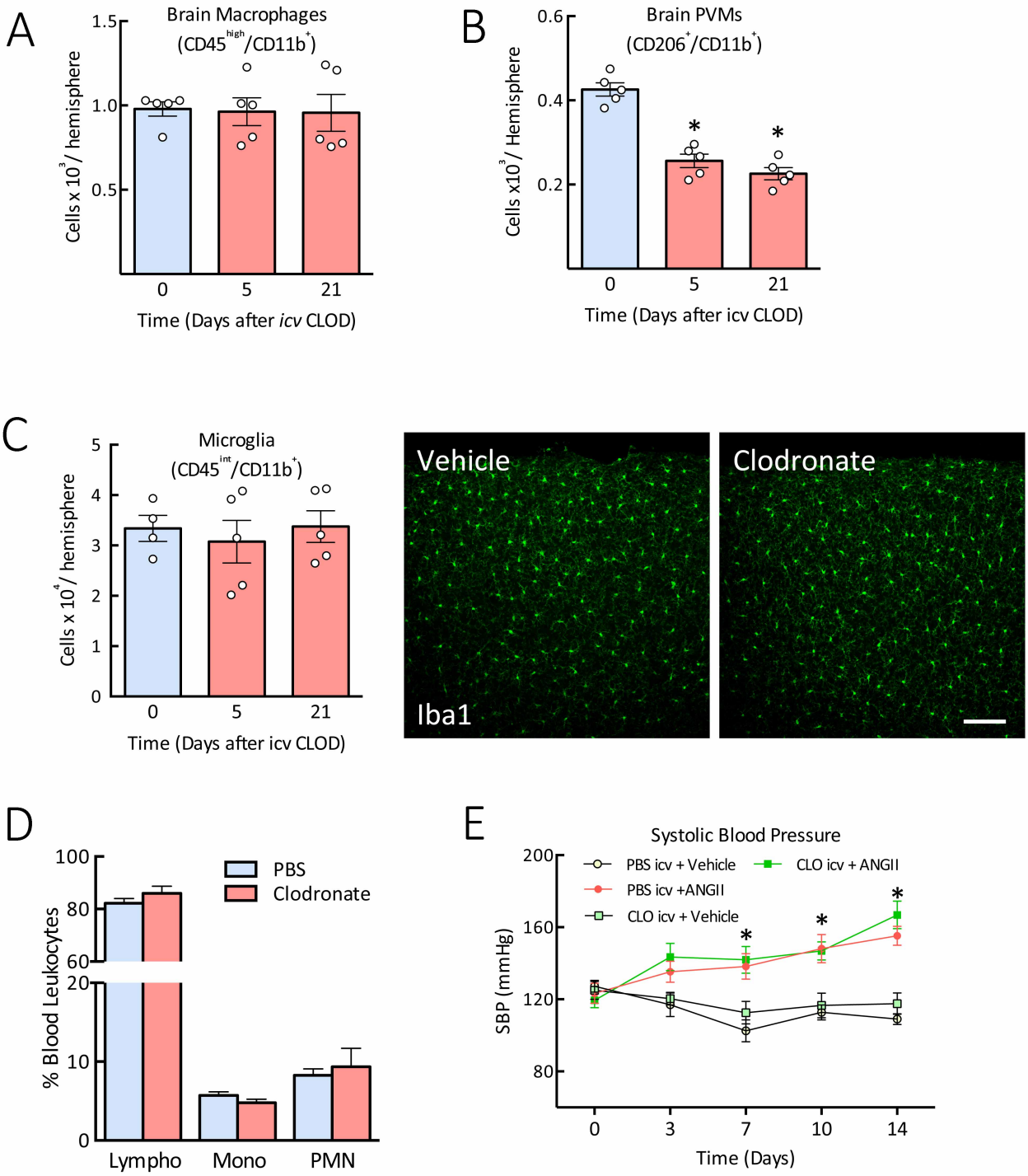
Supplementary figure 1

Anatomical distribution of PVM on cerebral blood vessels. (**A**) PVM are mainly found in association with vessels larger than 10µm in diameter. *p<0.05 vs vessel diameter <10µm and #p<0.05 vs vessel diameter 10-20µm; n=5/group (One-way repeated measures ANOVA and Tukey's test). (**B-D**) Among larger cortical vessels (>20µm in diameter), the highest PVM number and coverage, expressed as percentage of the length of the vessels covered by PVM, are found in pial arteries. *p<0.05 vs intracerebral vessels; n=6-7/group (Student's *t* test). (**E**) PVM are found in association with penetrating arterioles identified by the vascular smooth muscle cell marker, alpha-actin. Scale bar: 100µm.



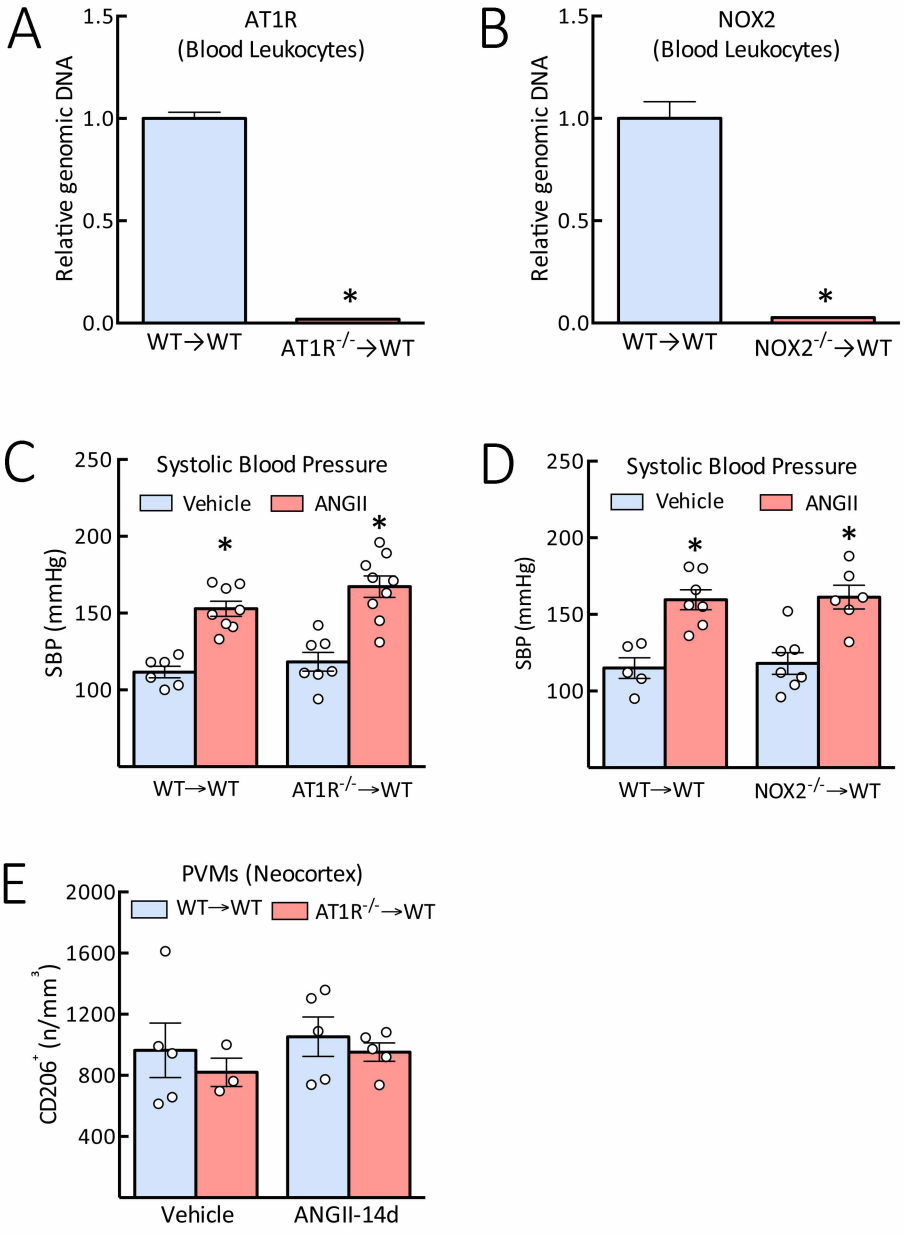
Supplementary Figure 2

Effect of ANGII slow pressor hypertension on ANGI and ANGII, and on BBB permeability. (**A**) Plasma ANGI is reduced in slow pressor ANGII hypertension, reflecting reduced endogenous ANGII synthesis, whereas brain ANGI and ANGII are not altered (**B** and **C**). ANGII increases BBB permeability to sodium fluorescein (NaF)(MW 0.4kDa) (**D**) but not to Evans blue (EB)(MW 69kDa) (**E**). *p<0.05 vs vehicle; n=7-8/group (Student's *t* test). (**F**) ANGII tends to increase BBB permeability to FITC-Dextran at 3 and 7 days but the effect does not reach significance until day 14 (Figure 2). * p<0.05 vs time 3, 7 and 14 (Veh); n=5-10/group (Two-way ANOVA and Bonferroni's test). (**G** and **I**) Phenylephrine (Phe) increases SBP similarly to ANGII but fails to increase BBB permeability to FITC-Dextran (MW 3kDa). *p<0.05 vs time 3, 7, and 14 (Veh); n=6-7/group (Two-way ANOVA plus Bonferroni's test and Student's *t* test).



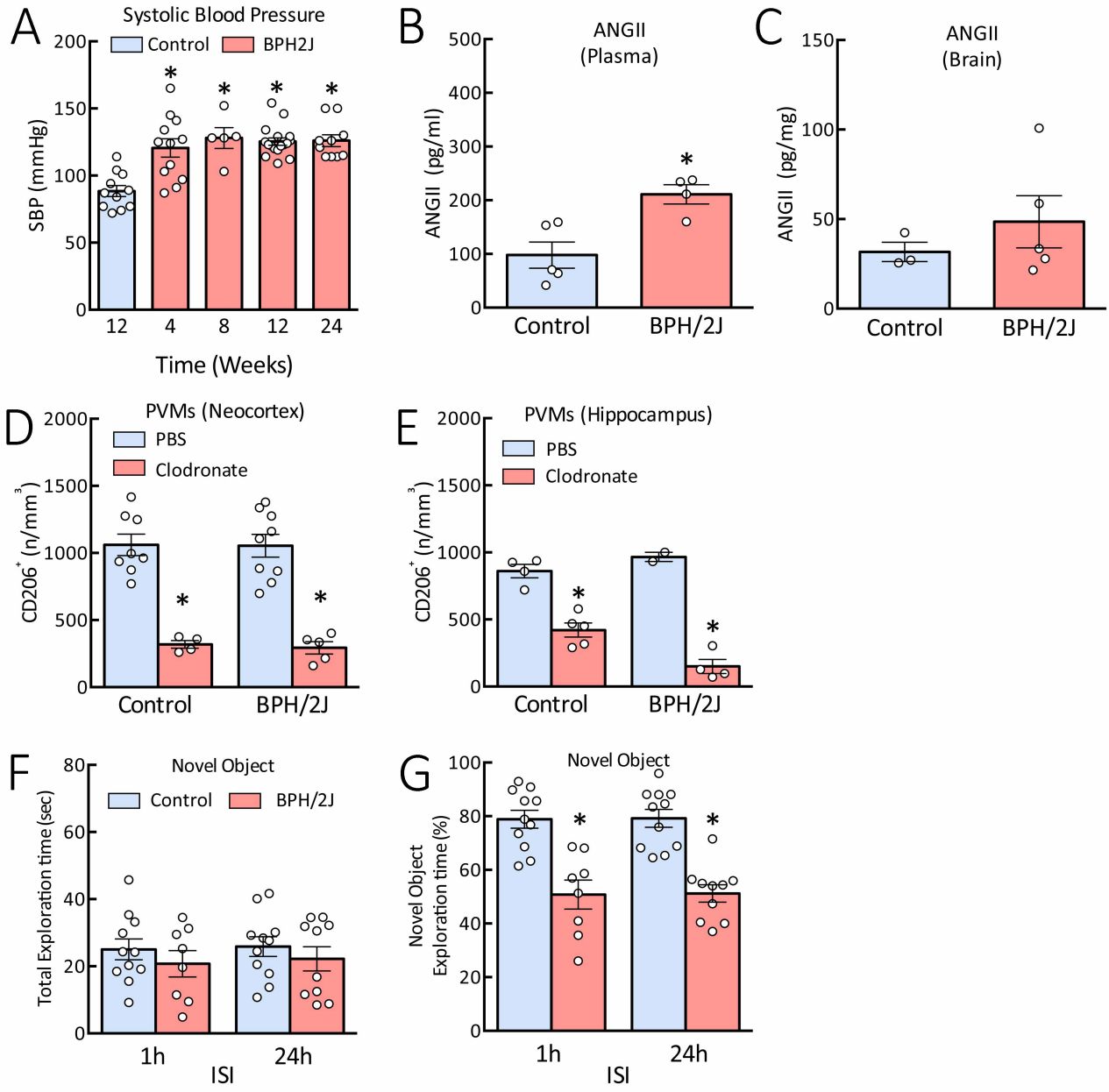
Supplementary Figure 3

Intracerebroventricular administration of clodronate depletes perivascular macrophages but does not affect microglia, circulating leukocytes or ANGII hypertension. (**A**) CLOD icv administration selectively depletes brain PVM without affecting the number of brain macrophages and microglia (**B** and **C**) assessed both by flow cytometry. *p<0.05 vs time 0; n=5/group (One-way ANOVA and Tukey's test). (**D**) CLOD icv administration does not affect blood leukocytes or (**E**) the blood pressure increase induced by ANGII administration. *p<0.05 vs time 7, 10 and 14 (PBS icv-Veh or CLOD icv-Veh); n=5/group (Two-way ANOVA and Bonferroni's test).



Supplementary Figure 4

Genomic analysis, ANGII-induced blood pressure elevation and PVM in bone marrow chimeras. (**A**) Genomic DNA analysis show that blood leukocytes are AT1R$^{-/-}$ and NOX2$^{-/-}$ in AT1R$^{-/-}$→WT and in in NOX2$^{-/-}$→WT chimeras, respectively, indicating a chimerism >95%. *p<0.05 vs WT→WT; n=5-12 (Student's *t* test). (**C** and **D**) AT1R or NOX2 deletion in bone marrow-derived cells does not affect the elevation in systolic blood pressure (tail cuff) produced by slow pressor doses of ANGII after 14 days of administration. * p <0.05, from WT→WT-Veh and AT1R$^{-/-}$→WT-Veh; n=6-9/group; # p <0.05, from WT→WT-Veh and NOX2$^{-/-}$→WT-Veh; n=5-9/group (Two-way ANOVA and Bonferroni's test). (**E**) Lack of AT1R in bone marrow cells does not alter the homing of PVM into the brain.



Supplementary Figure 5

Systolic blood pressure, plasma and brain ANGII, and effect of clodronate on PVM in BPH2J and control mice. (**A**) Systolic blood pressure (tail cuff) is increased as early as the fourth week of age in BPH/2J mice; *p<0.05 vs control 12 wks; n=10-11/group (One-way ANOVA and Tukey's test). Plasma (**B**) but not brain (**C**) ANGII levels are increased in BPH/2J mice; *p<0.05 vs control; n=3-5 (Student's *t* test). CLOD icv administration reduces the number of $CD206^+$ cells in neocortex (**D**) and hippocampus (**E**) of BPH/2J and control mice. * p <0.05, from PBS-Control and PBS-BPH/2J; # p<0.05, from CLOD-Control; n=2-9/group (Two-way ANOVA and Bonferroni's test). (**F** and **G**) The recognition memory deficits, assessed by the novel object recognition test, are present, in BPH/2J mice, after 1 and 24h from the familiarization trial. * p <0.05, from control 1h and 24h; n=10-12/group (Two-way ANOVA and Bonferroni's test). ISI = Intersession Interval.