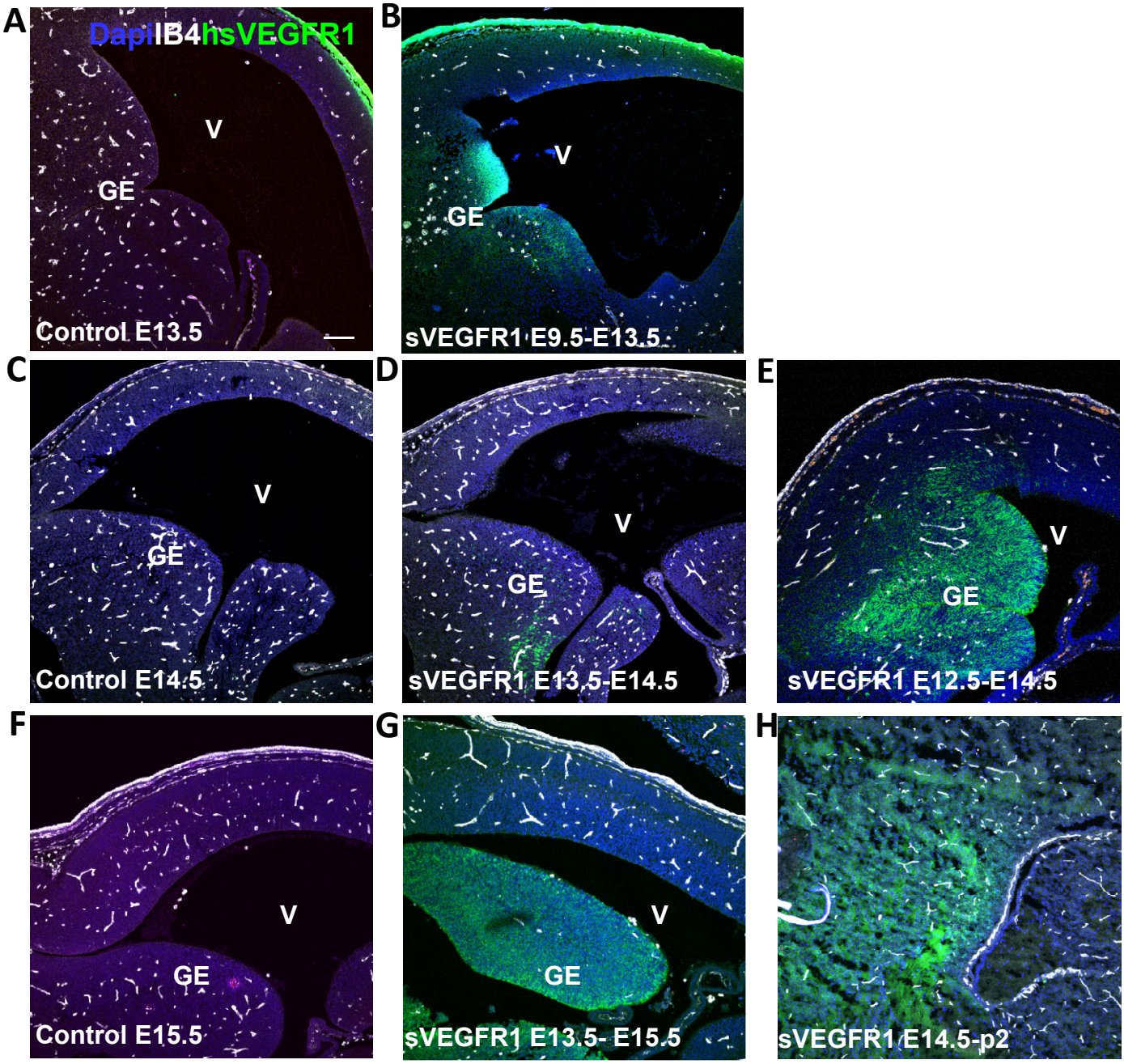
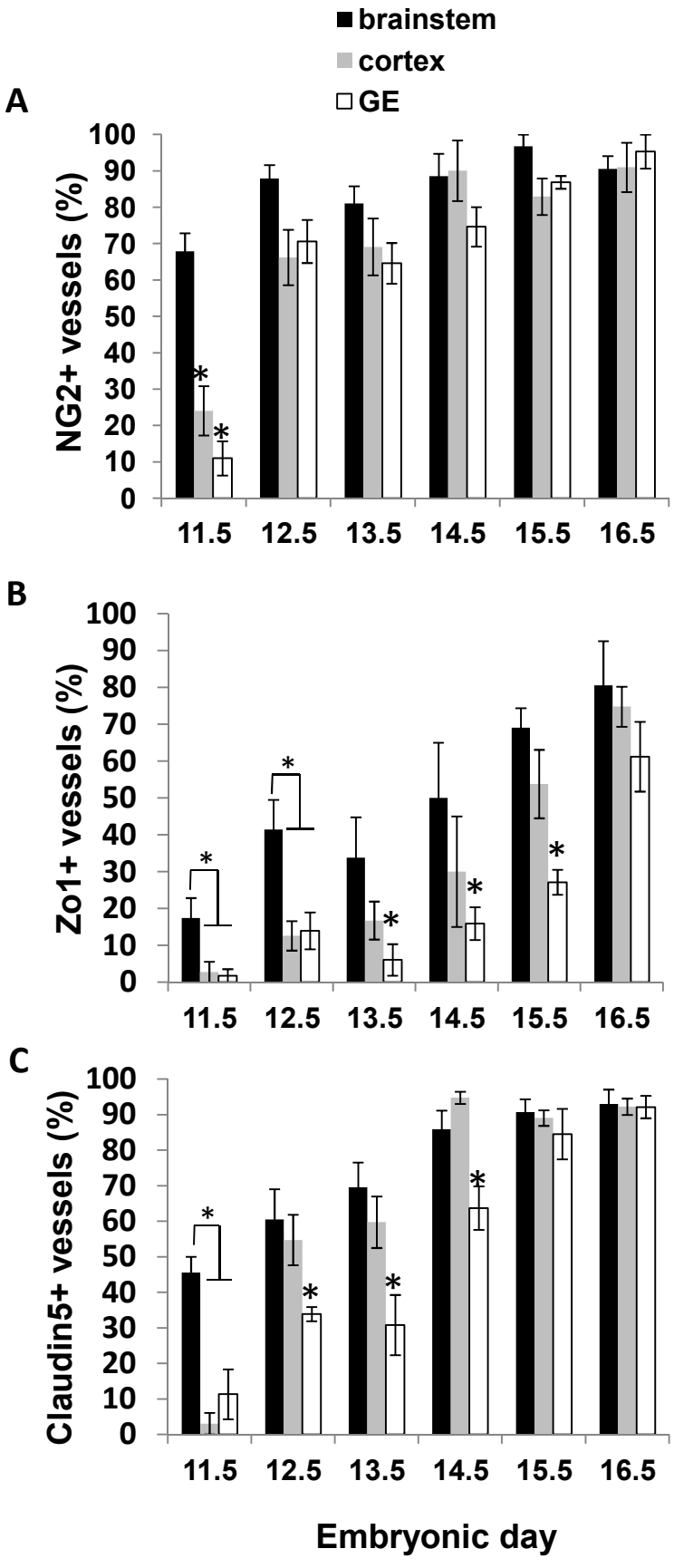


Supplemental Figure 1: kinetics of transgenic sVEGFR1 induction and elimination of GE vessels. sVEGFR1 was induced at the indicated embryonic day and was kept 'on' for the indicated duration when the brain was retrieved for analysis. Sections encompassing the ventricle (V) and periventricular region were immuno-stained for transgenic (human) sVEGFR1 (green). Vessels were highlighted using IB4 staining (white). Note that one day after tetracycline withdrawal sVEGFR1 levels were still very low and one additional day was required for its massive accumulation. Correspondingly, elimination of GE vessels required at least two days from induction. Also note that sVEGFR1 was efficiently induced when induction was delayed to E14.5 and that its high level expression was also evident after birth. Scale bar, 100µm.

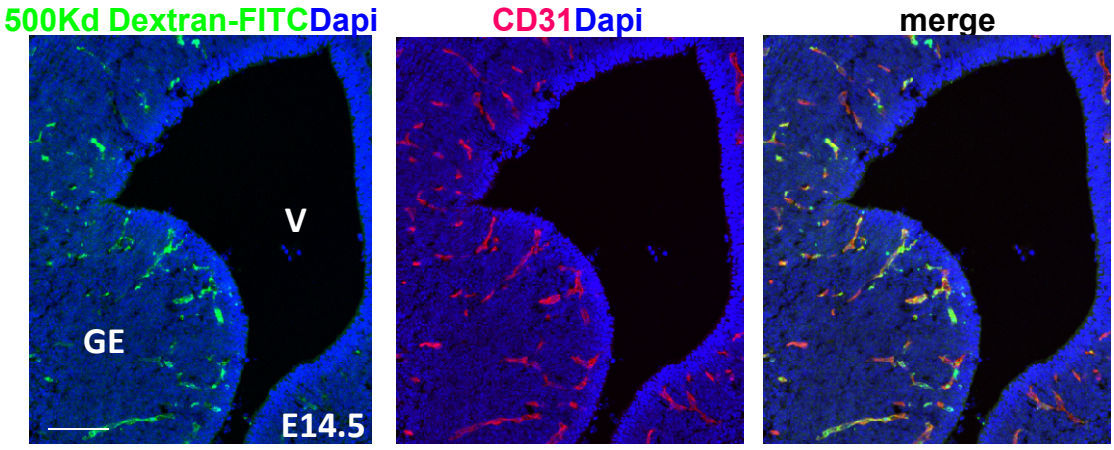


D

Embryonic day	P value NG2	df NG2	P value Zo1	df Zo1	p value claudin 5	df claudin 5
11.5	1.01E-07, 2.99E-05	t(21)=5.923, t(20)=8.768	0.03, 0.037	t(9)=2.354, t(10)=2.861	0.014, 0.024	t(6)=3.083, t(5)=3.007
12.5	NS	n=5,5,6	0.016, 0.014	t(10)=3.629, t(10)=3.019	0.016	t(6)=4.401 n=4,7,4
13.5	NS	n=4,7,7	0.05	t(6)=3.462 n=4,4,5	0.001	t(10)=3.812 n=6,4,6
14.5	NS	n=6,6,6	0.023	t(6)=3.023 n=4,4,4	0.008	t(7)=3.515 n=4,4,4
15.5	NS	n=7,8,5	0.0005	t(6)=6.698 n=4,6,4	NS	n=4,6,4
16.5	NS	n=4,4,4	NS	n=4,4,4	NS	n=4,4,4

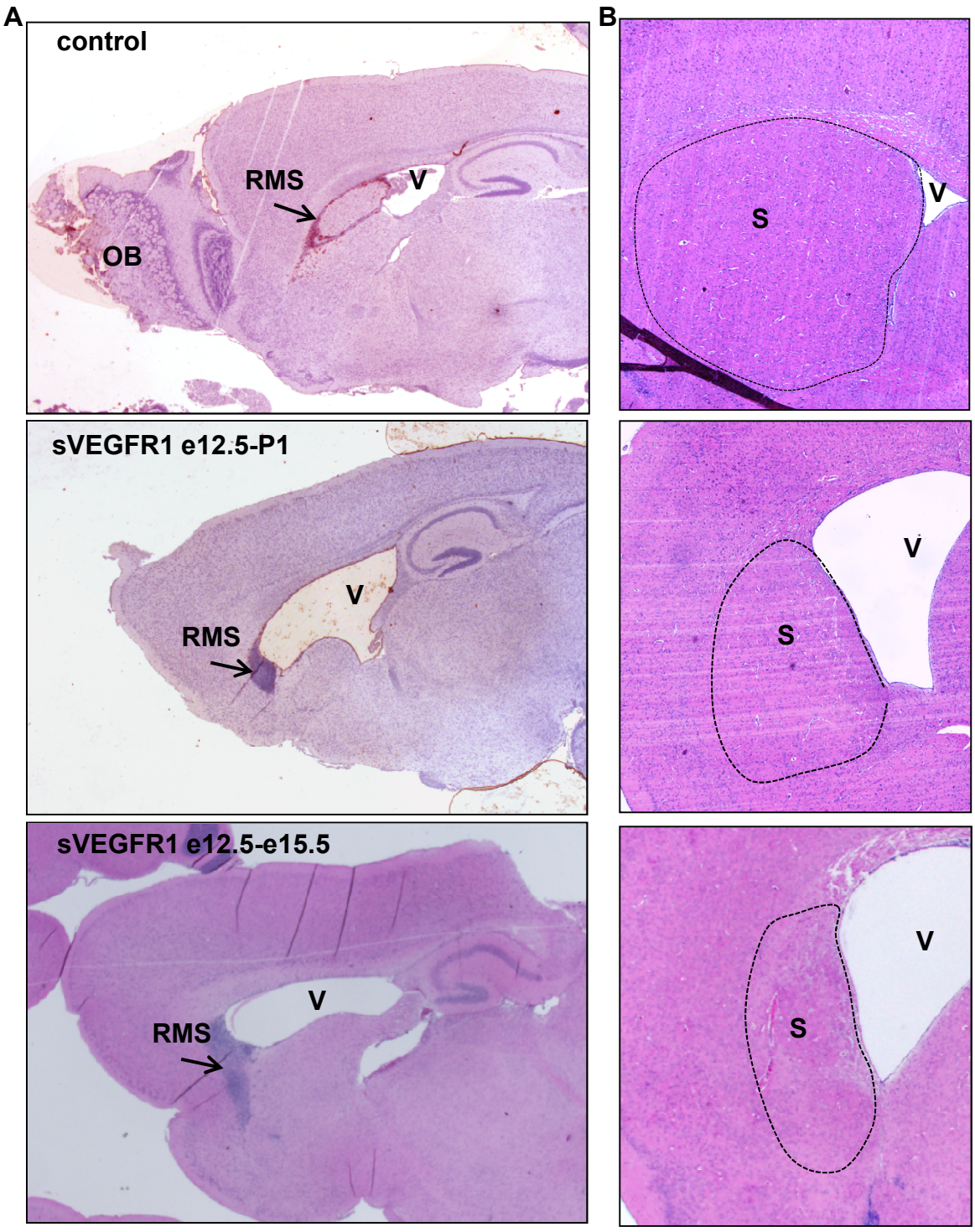
Supplemental Figure 2

Supplemental Figure 2: Delayed onset of tight junction molecules expression in GE vessels. Wildtype brains of the indicated embryonic developmental days were immunostained for the endothelial marker IB4 together with the pericyte marker NG2 (**A**)**,** the tight junction molecules Zona-Occludens-1 (**B**) or claudin-5 (**C**)**.** The fraction of endothelial cells also expressing the respective second molecules was calculated in three cerebral regions, namely, the GE, cortex and brainstem. Note delayed onset of expression of particularly claudin-5 in GE vessels relative to the other brain regions. n>4 in each group. P values and df of significant results (cortex vs BS and GE vs BS) are indicated in the table in (**D**)**.**



Supplemental Figure 3. Blood vessels at the ventricular wall of E14.5 embryo are perfused. 500Kd FITC-labeled Dextran was injected to the embryonic liver and the brain was retrieved 6 minutes later. Presence of tracer-filled vessels (highlighted by CD31 staining) indicates that these are perfused, patent vessels. Scale bar, 100μm. GE: ganglionic eminence. V: lateral ventricle

Supplemental Figure 3



Supplemental Figure 4

Supplemental Figure 4: A transient, short episode of VEGF blockade is sufficient to induce a permanent PVL-like pathology. sVEGFR1 was induced and, in turn, de-induced at the indicated embryonic times. All brains were inspected at p20. Sagittal (**A**) and enlarged coronal (**B**) sections highlight enlarged ventricle (V), missing OB, degenerated Rostral Migratory Stream (14) (arrow) and reduced striatal size. (**C**) MRI Sagittal brain scan of a 1 year old toddler who was born at GW 30, suffered from PVL and now diagnosed with CP. Note the enlarged ventricles (V) and reduced striatum (S) and thalamus (T).