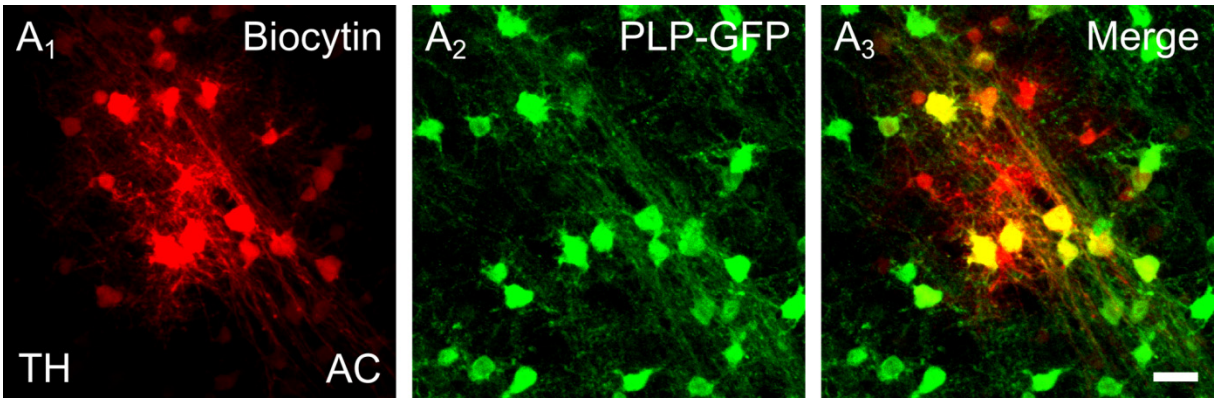
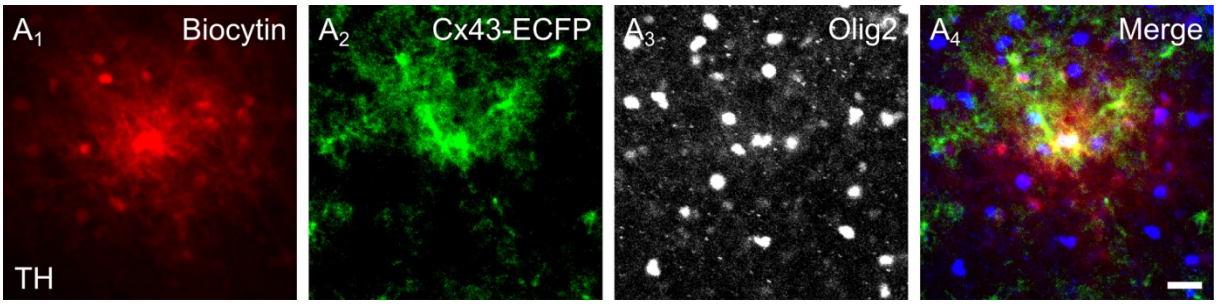
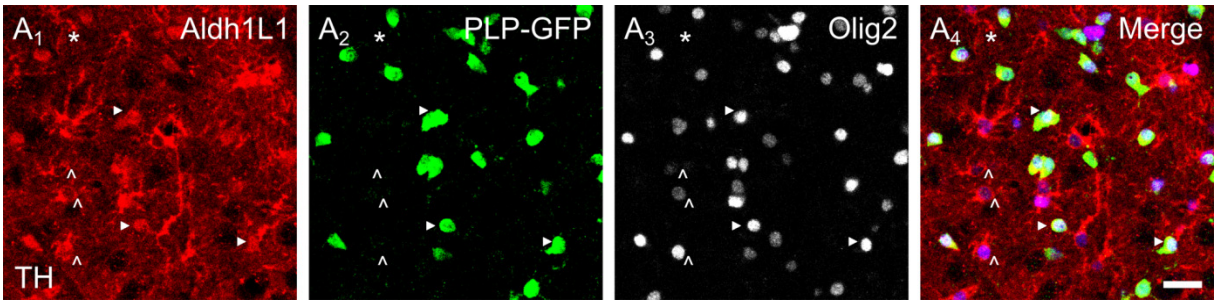


Supplementary Figure 1: A:O coupling in juvenile (p9-p11) mice. Astrocytes in the thalamus (TH) of PLP-GFP mice were identified by SR101 labelling (not shown). Astrocytes were tracer filled (A_1, indicated by AC) and co-stained for GFP (A_2) revealing diffusion of the tracer into PLP-GFP$^+$ oligodendrocytes (A_3). Scale bar, 20 µm.



Supplementary Figure 2: Cx43-expressing cells in biocytin filled networks also express Olig2. $ECFP^{+}$ astrocytes in the thalamus (TH) of $Cx43^{ECFP/+}$ mice were filled with biocytin (A_1) and subsequently stained for Cx43-ECFP (A_2) and Olig2 (A_3). In the merged image the overlap of biocytin, ECFP and Olig2 is visible in two cells in the center of the network (A_4). Scale bar, 20 µm.



Supplementary Figure: 3 Aldh1L1 is not a reliable marker for thalamic astrocytes. Immunostaining for Aldh1L1 (A_1) was performed in PLP-GFP (A_2) mice. Additionally, the transcription factor Olig2 (A_3) was stained (blue in A_4). Aldh1L1$^+$ cells express Olig2 at variable amounts (**^**) whereas some cells do not express Olig2 at all (*). Unexpectedly, many PLP-GFP$^+$ cells were stained by Aldh1L1 antibodies (white arrow heads). Scale bar, 20 µm.