



B

		T_2W			T_2^*W FLASH		
		Signal	SNR	CNR	Signal	SNR	CNR
S_{BG}		13.89			23.49		
δ_{BG}		78.23			13.04		
S_{ROI}	1	95.01	10.74		188.65	52.24	
	2	104.24	11.79	0.06	185.54	51.38	0.07
	3	53.60	6.06	0.11	50.06	13.86	0.28

Supplemental Figure 1

A) Representative sagittal T_2W and T_2^*W FLASH MR images of E14 chick embryo *in ovo* as shown in Figure 3A. Regions of interest (ROI) are indicated as follows: Background (BG) = yellow circle, ROI 1 = extraembryonic blood vessel, labelled with red circle, ROI2 = part of the chick embryo brain, labelled with red circle, ROI3 = area containing MPIO labelled cells located within the brain of the chick embryo surrounded by red outline. **B)** Table of signal intensity of background (SBG) as well as the 3 ROIs displayed in A, standard deviation of the background (δ_{BG}), signal to noise ratio (SNR) and contrast to noise ratio (CNR). Signal intensity (mean grey value) was measured in the ROI. SNR and CNR were calculated using following formulas $SNR = S_{ROI}/\sqrt{\delta_{BG}}$, $CNR = (S_{ROI3}/S_{ROI2} \text{ or } S_{ROI3})/\sqrt{\delta_{BG}}$.