Supplementary Figures

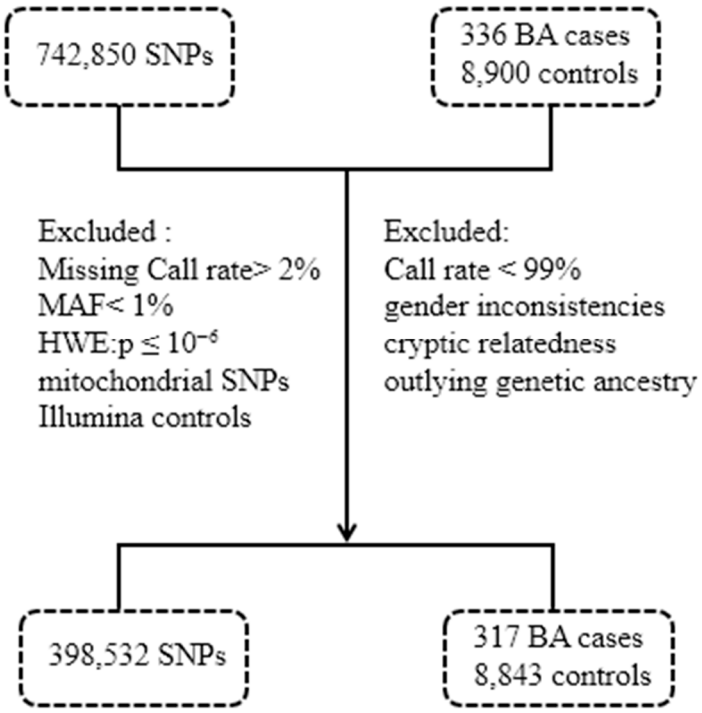

Figure S1. The flowchart for quality filtering in GWAS data. Quality filtering was performed on SNPs and samples before analysis to ensure robust association tests.

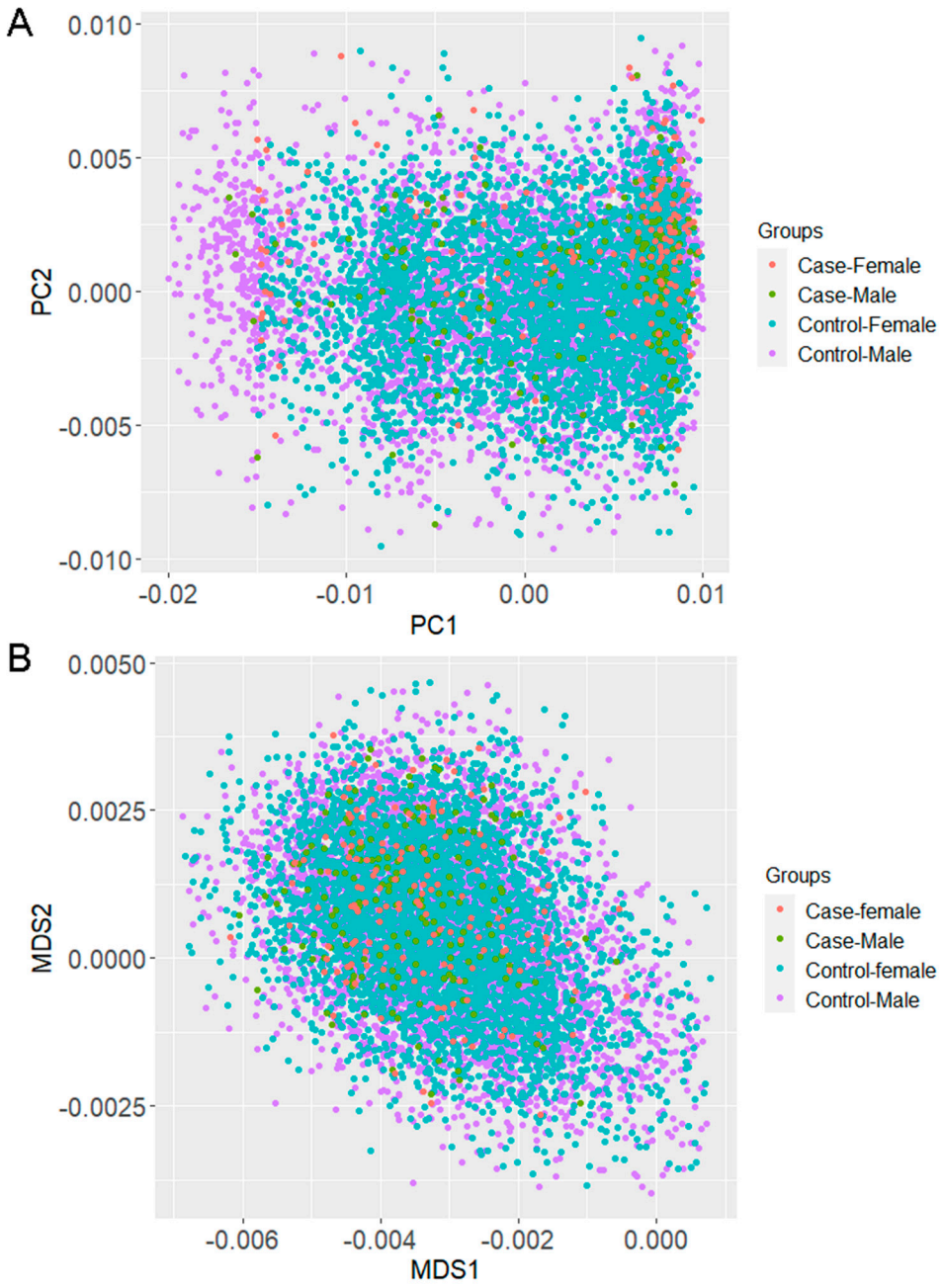

Figure S2. Plots of principal component analysis (PCA) and multidimensional scaling (MDS) analysis of GWAS samples. (**A**) Principal components of 317 BA cases and 8,843 controls were plotted using the first two eigenvectors produced by the EIGENSOFT software. (**B**) The first and second dimension values of 317 BA cases and 8,843 controls were produced by PLINK. The identity-by-descent (IBD) pairwise distances among all the samples were used to construct dimensions and MDS analysis (http://pngu.mgh.harvard.edu/purcell/plink/). No significant structures were observed in the current cohort.

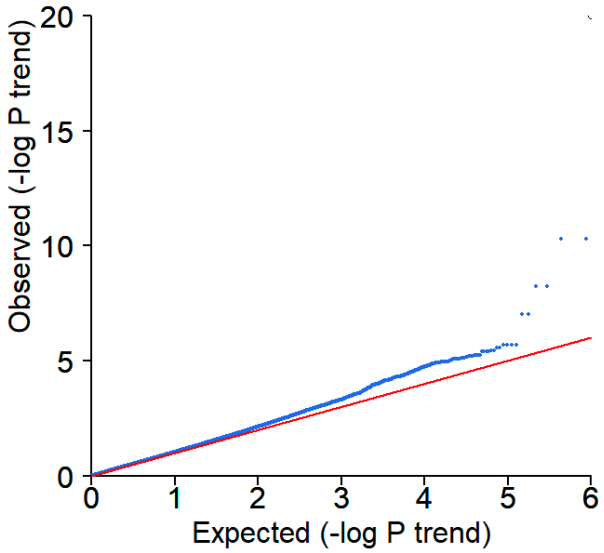

Figure S3. Quantile-quantile (Q-Q) plot of GWAS results for BA risk

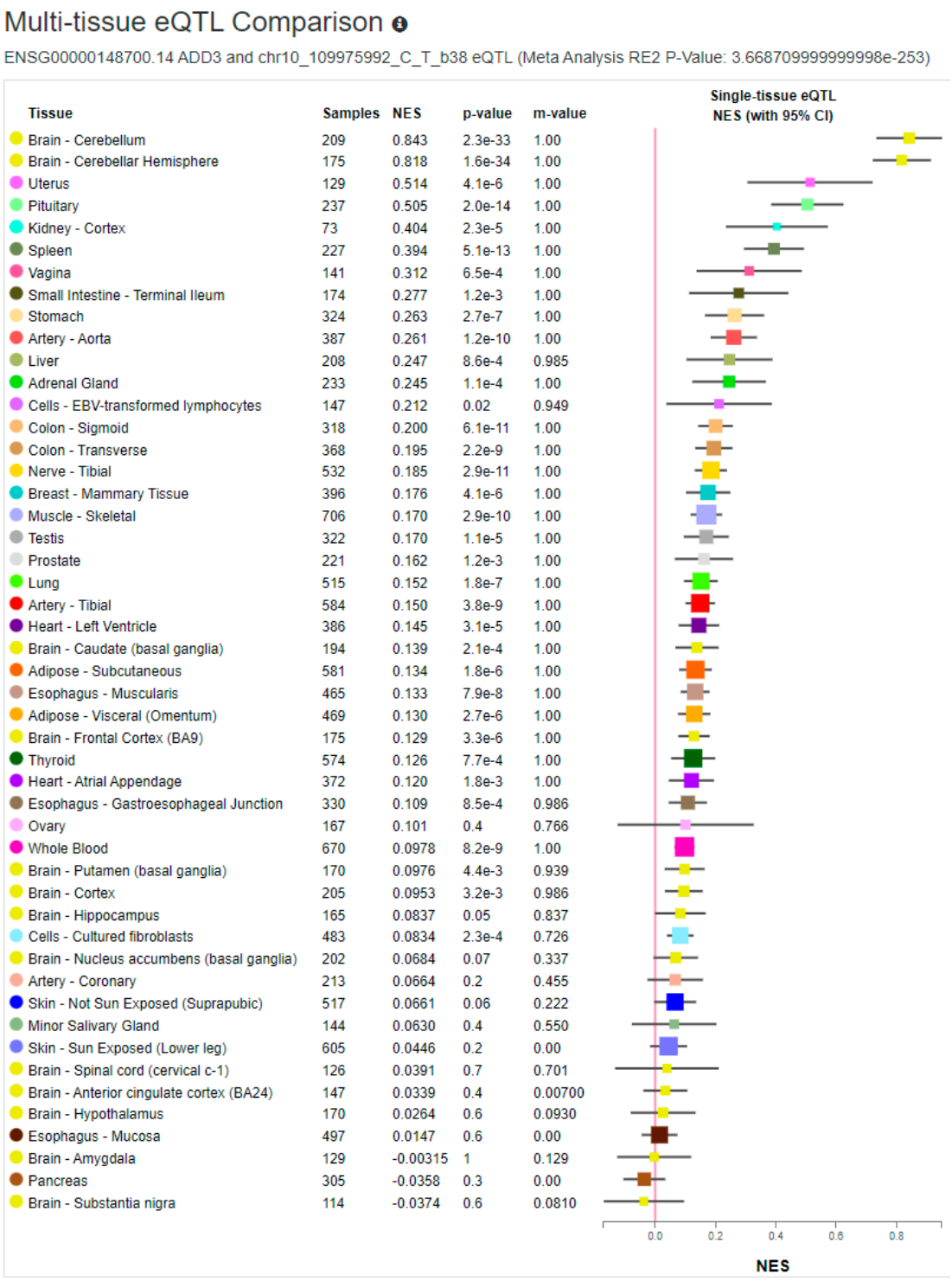

Figure S4. eQTL plot for rs17095355 genotypes related with *ADD3* expression**.** The plot was based on genotype and transcriptome data from the GTEx Analysis Release V8 (dbGaP Accession phs000424.v8.p2). Rs17095355 risk allele T is associated with increased level of *ADD3* expression in most of the body tissues. Spleen (n = 227, $P_{GTEx} = 5.1 \times 10^{-13}$); Whole blood (n = 670, $P_{GTEx} = 8.2 \times 10^{-9}$). See also in Aging (Albany NY). 2020 Apr 21;12(8):7163-7182.

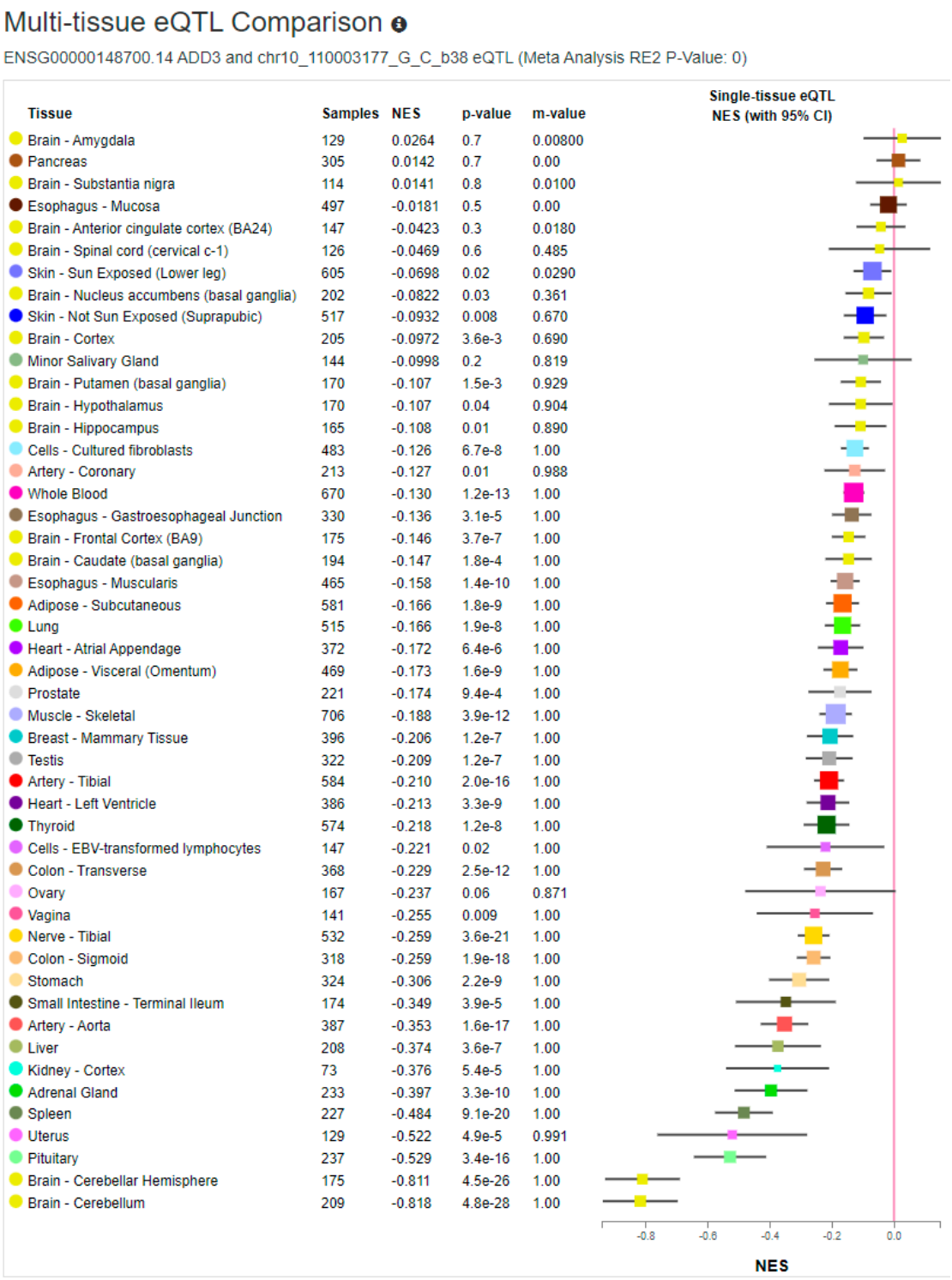

Figure S5. eQTL plot for the imputed SNP rs3862007 genotypes related with *ADD3* expression**.** The plot was based on genotype and transcriptome data from the GTEx Analysis Release V8 (dbGaP Accession phs000424.v8.p2). The rs3862007 risk allele T is associated with increased levels of *ADD3* expression in liver (n = 208, $P_{GTEx} = 3.6 \times 10^{-7}$), spleen (n = 227, $P_{GTEx} = 9.1 \times 10^{-20}$) and whole blood (n = 670, $P_{GTEx} = 1.2 \times 10^{-13}$).

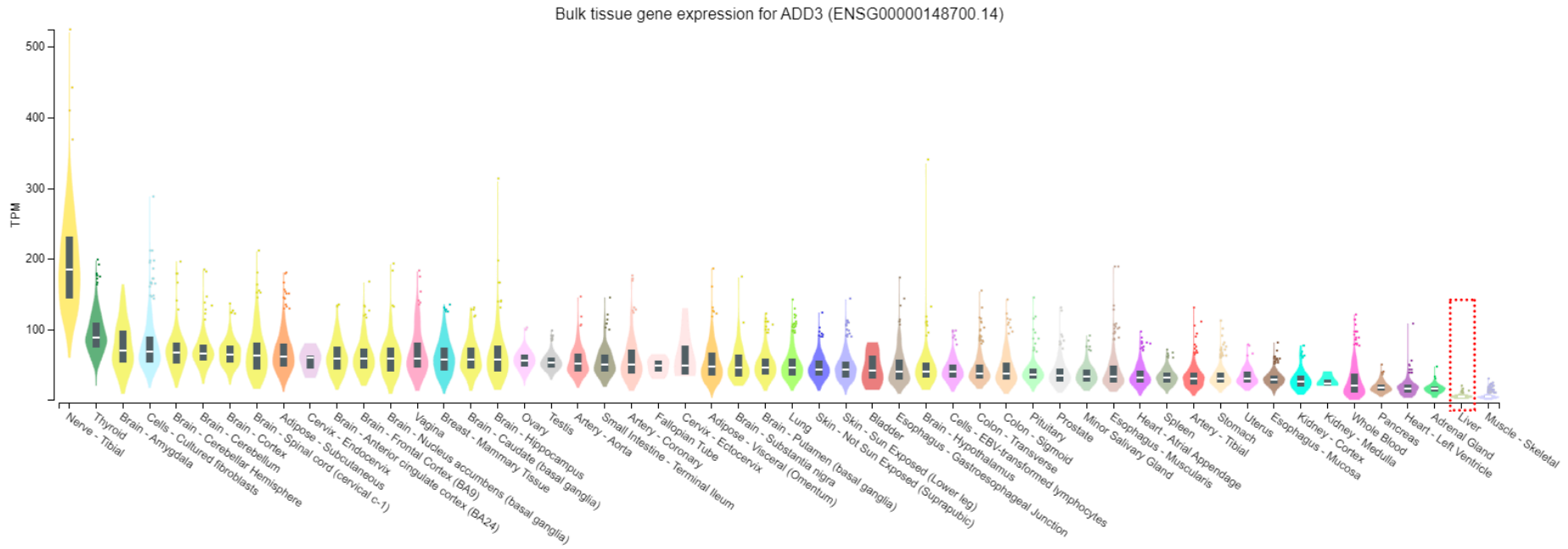

Figure S6. Bulk tissue gene expression for ADD3 (ENSG00000148700.14). Data Source: GTEx Analysis Release V8 (dbGaP Accession phs000424.v8.p2).

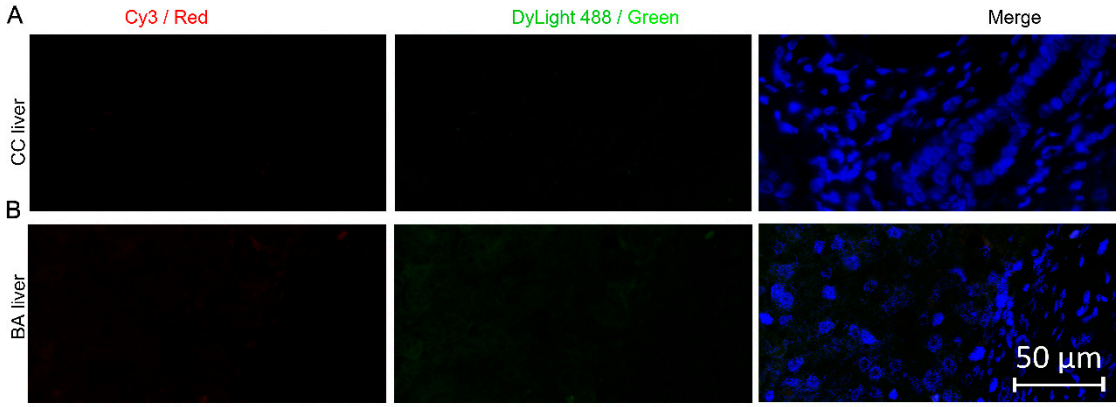

Figure S7. Negative control for immunofluorescence detection of ADD3 in (**A**) choledochal cyst (CC) and (**B**) BA liver sections. Alexa Fluor 488-conjugated rabbit anti-goat IgG (Red) and Cy3-conjugated goat anti-mouse IgG (Green) were used as the secondary antibodies. Blue color: DAPI staining of nuclei. 400× magnification. Scale bar: 50 µm.