

**Supplementary Figure S3** CD20 staining of B lymphocytes and laser-assisted microdissection of trophoblasts. ( $\bf A$ ) IHC with antibodies to identify B lymphocytes (CD20) shows no positive staining in first and second trimester (not shown) placentas (counterstained with hematoxylin). ( $\bf B$ ) In third trimester placentas, a limited number of CD20-positive cells (red color) were seen in the core of villi. ( $\bf C$  and  $\bf D$ ) Following hematoxylin staining, the villus cores of term placentas were captured with laser-guided microdissection (LMD) and discarded before dissection ( $\bf C$ ) and after dissection ( $\bf D$ ). ( $\bf E$  and  $\bf F$ ) The next layer of trophoblasts is collected for mRNA detection before dissection ( $\bf E$ ) and after dissection ( $\bf C$ ). ( $\bf G$  and  $\bf H$ ) Capturing single cells using LMD before ( $\bf G$ ) and after ( $\bf H$ ) dissection. Scale bars, 50  $\bf \mu$ m ( $\bf A$ ), 20  $\bf \mu$ m ( $\bf B$ ), 100  $\bf \mu$ m ( $\bf C$ - $\bf F$ ), 25  $\bf \mu$ m ( $\bf G$ - $\bf H$ ).