

Supplementary Figure and Table Legends

Supplementary Figure S1. Representative images of RNBCs on the microchip before/after electric stimulation by different voltages (A-F). Image B, D and F represented 0.3 V, 0.5 V and 0.8 V electric stimulation respectively with FDA and PI dyeing.

Supplementary Table S1. Summary of whole-exome sequencing data.

Supplementary Table S2. Number of fNRBCs isolated from maternal peripheral blood at 18 weeks of gestation.

Supplementary Table S3. Number of trisomy fNRBCs isolated from maternal peripheral blood samples with abnormal pregnancy.

Table S1. Summary of whole-exome sequencing data

Sample	Clean date (Gb)	Initial Bases on target (Mb)	Alignment rate (%)	Base covered on target (Mb)	Fraction of effective target (Mb)	Average sequencing depth	4×coverage (%)	10×coverage (%)	20×coverage (%)
MBP	13.49	7,610.54	99.07	11,150.93	5,112.12	99.18	92.06	84.54	73.68
Mat	11.65	7,610.54	98.95	10,149.06	5,178.39	100.47	96.25	94.59	91.67

Table S2. Number of fNRBCs isolated from maternal peripheral blood at 18 week of gestation

Sample No.	fNRBC number per mL
1	48
2	27
3	43
4	58
5	22
6	54
7	57
8	50
9	22
10	56
11	37
12	35
13	43
14	32
15	30

Table S3. Number of trisomy fNRBCs isolated from maternal peripheral blood samples with abnormal pregnancy

Sample No.	Karyotype	fNRBC number per mL
1	47, XN, +21	141
2	47, XN, +21	177
3	47, XN, +21	241
4	47, XN, +21	95
5	47, XN, +21	39
6	47, XN, +13	52
7	47, XN, +13	71
8	47, XN, +13	76
9	47, XN, +18	84
10	47, XN, +18	65
11	47, XXY	68
12	47, XXY	36

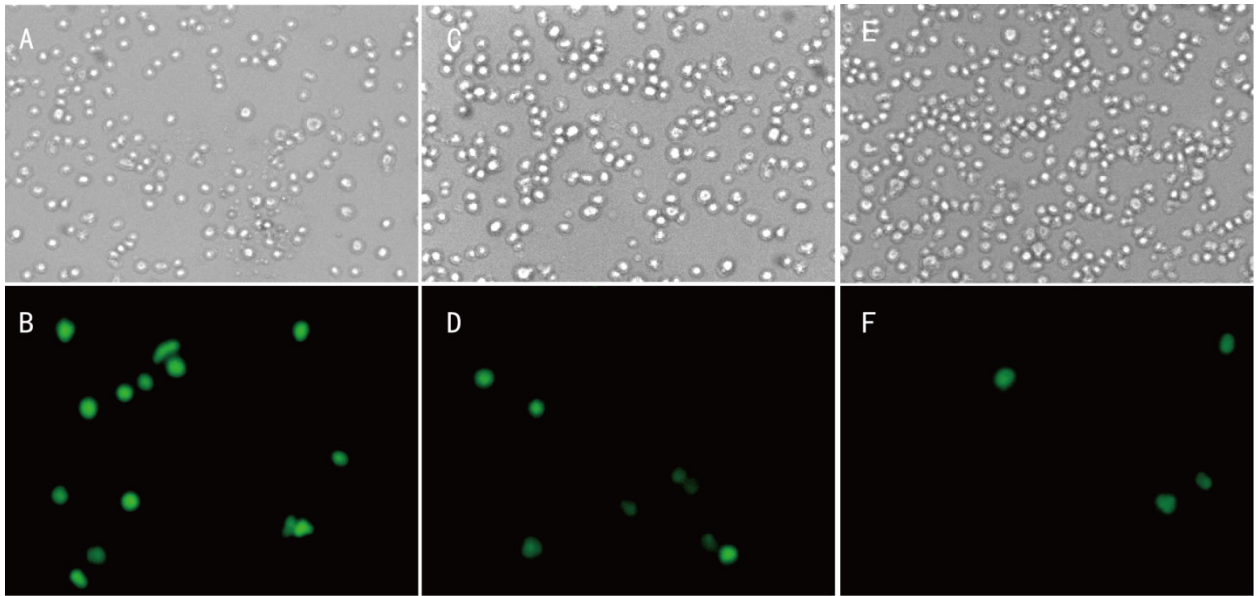


Figure S1. Representative images of RNBCs on the microchip before/after electric stimulation by different voltages (A-F). Image B, D and F represented 0.3 V, 0.5 V and 0.8 V electric stimulation respectively with FDA and PI dyeing.