

**Table S1. Evaluation factors selected for Plackett-Burmann matrix design**

Number	Factors	Low (-1)	High (+1)
1	Serum (%)	45	65
2	Neomycin sulfate (g/L)	0.3	1.0
3	Chloramphenicol (g/L)	0.02	0.5
4	Sodium azide (g/L)	0.5	1.5
5	Glycerol (%)	1	3

**Table S2. Plackett-Burman matrix for samples at average concentration**

Test	Variable					Cell concentration (x 10 <sup>9</sup> cells/L)					
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	Human RBCs		Pseudo-leucocytes		Pseudo-platelets	
						Experiment	Model	Experiment	Model	Experiment	Model
1	1	-1	-1	-1	-1	0.0041	0.0044	6.6	6.9	205	202
2	1	1	-1	-1	1	0.0044	0.0042	6.9	6.7	201	198
3	1	1	1	-1	-1	0.0039	0.0040	6.4	6.4	195	188
4	-1	1	1	1	-1	0.0042	0.0042	6.7	6.7	200	198
5	1	-1	1	1	-1	0.0038	0.0040	6.2	6.4	190	191
6	1	1	-1	1	1	0.0037	0.0038	6.2	6.2	183	183
7	-1	1	1	-1	1	0.0042	0.0042	6.7	6.7	192	196
8	1	-1	1	1	1	0.0041	0.0042	6.6	6.6	190	195
9	-1	1	-1	1	-1	0.0043	0.0042	6.7	6.6	196	195
10	-1	-1	1	1	1	0.0039	0.0040	6.3	6.4	188	190
11	-1	-1	-1	-1	1	0.0043	0.0042	6.8	6.7	195	196
12	-1	-1	-1	-1	-1	0.0038	0.0038	6.2	6.2	184	183

**Table S3. The experimental results and the theoretical results from optimized RSM-CCD**

Test	RBCs	Pseudo-leucocytes	Pseudo-platelets
1	4.24	6.6	186
2	4.21	6.4	188
3	4.19	6.3	187
Mean	4.21	6.4	187
SD	0.02	0.12	0.82
% compatibility between experimental and theoretical results	97.32	100.00	99.47