

Cell Sorting Using BioMag® SelectaPure™ Anti-Human Leukocyte Particles

BioMag® SelectaPure™ Anti-Human Leukocyte Particles are produced to provide optimal cell sorting results proven by flow cytometry. The table below can be used as a quick reference and general guideline for starting bead to cell ratios for different types of target cells. The data presented below are results obtained with BioMag in positive selection experiments using whole blood or purified leukocyte preps. Typically cells and particles were mixed and incubated approximately 30 minutes at room temperature. The mixture was then magnetically separated, the supernatant incubated with the appropriate two-color antibody cocktail and analyzed by flow cytometry.

It should be noted that one magnetic cell sorting protocol may not be applicable for all cell separations. Due to differences in the distribution of cell types in samples and other variables the researcher is strongly encouraged to determine the optimal particle to cell ratios for their experiments. The best way to start is by following the general guidelines offered here while referring to published protocols. Each lab should then optimize incubation times, particle to cell ratios, etc. to achieve the desired results. Each product is supplied in 1 X phosphate buffered saline containing 1.0% BSA, EDTA (40 mg/L), and 0.1% sodium azide.

Particle I.D.	Cat. #	TDS #	Particles/ml	Vol. Used ml	# Particles per test	# Target Cells per test	Bead:Cell ratio	% Depletion
CD3	85003	580	4.00 x 10 ⁸	0.0125	5.00 x 10 ⁶	1.05 x 10 ⁶	4.8	98.82%
CD4	85004	581	1.40 x 10 ⁸	0.018	2.52 x 10 ⁶	6.77 x 10 ⁵	3.7	99.44%
CD8	85008	583	1.40 x 10 ⁸	0.010	1.40 x 10 ⁶	2.73 x 10 ⁵	5.1	98.24%
CD14	85014	584	1.40 x 10 ⁸	0.070	9.80 x 10 ⁶	2.93 x 10 ⁵	33.5	96.90%
CD16	85016	585	4.00 x 10 ⁸	0.010	4.00 x 10 ⁶	1.12 x 10 ⁵	35.7	97.30%
CD19	85019	586	4.00 x 10 ⁸	0.0125	5.00 x 10 ⁶	1.35 x 10 ⁵	37.0	99.22%
CD56	85056	589	4.00 x 10 ⁸	0.10	4.00 x 10 ⁷	4.0 x 10 ⁵	100.0	76.70%
								Lymphocyte Gate
CD34	85034	587	4.00 x 10 ⁸	0.05	2.00 x 10 ⁷	1.0 x 10 ⁵	200.0	73.20%
								Monocyte Gate
CD34	85034	587	4.00 x 10 ⁸	0.05	2.00 x 10 ⁷	5.0 x 10 ⁴	400.0	50.00%
								Lymphocyte Gate
CD45	85045	587	4.00 x 10 ⁸	0.200	8.00 x 10 ⁵	1.72 x 10 ⁶	46.5	97.36%
CD45 & CD16			4.00 x 10 ⁸	0.100	4.00 x 10 ⁵	1.72 x 10 ⁶	23.3	96.73%
								Monocyte Gate
CD45	85045	588	4.00 x 10 ⁸	0.050	2.00 x 10 ⁵	5.05 x 10 ⁵	39.6	98.42%
CD45 & CD16			4.00 x 10 ⁸	0.050	2.00 x 10 ⁵	5.05 x 10 ⁵	39.6	99.29%
								Granulocyte Gate
CD45	85045	588	4.00 x 10 ⁸	0.200	8.00 x 10 ⁵	2.28 x 10 ⁶	35.1	46.33%
CD45 & CD16			4.00 x 10 ⁸	0.050	2.00 x 10 ⁵	2.28 x 10 ⁶	8.8	95.24%
								Lymphocyte Gate
CD71	85071	590	4.00 x 10 ⁸	0.025	1.00 x 10 ⁵	4.69 x 10 ⁵	21.3	97.43%
								Monocyte Gate
CD71	85071	590	4.00 x 10 ⁸	0.025	1.00 x 10 ⁵	1.87 x 10 ⁵	53.4	97.27%
								Granulocyte Gate
CD71	85071	590	4.00 x 10 ⁸	0.050	2.00 x 10 ⁵	2.92 x 10 ⁶	6.8	96.52%