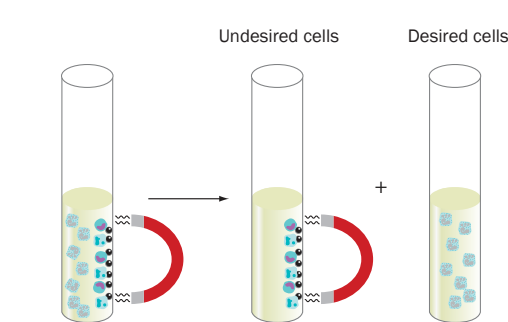


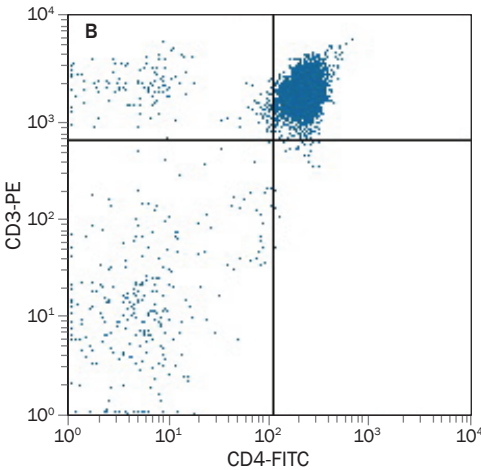
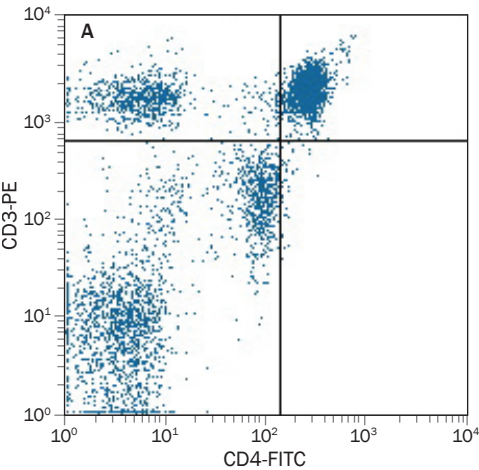
Isolation of CD4⁺ T Cells from Whole Blood or Spleen

Peripheral blood mononuclear cells (PBMCs) can be recovered from whole blood by centrifugation on a density medium such as Ficoll-Paque™. Erythrocytes are then cleared from the PBMCs by selective lysis. Alternatively, splenocytes can be recovered from excised spleens by gentle physical disruption. Either PBMCs or splenocytes are suitable starting samples for the isolation of CD4⁺ T cells. Enriched populations of CD4⁺ T cells can be prepared using the straightforward protocols of MagCelect™ kits. In these protocols, antibody-tagged cells bind to nanoparticles in a ferrofluid and are then subjected to a magnetic field.



MagCelect Cell Isolation Kits

T Cell Type	Catalog #
Human CD4 ⁺ Cells	MAGH102
Mouse CD4 ⁺ Cells	MAGM202
Rat CD4 ⁺ Cells	MAGR302
Mouse Naïve CD4 ⁺ Cells	MAGM205
Human Naïve CD4 ⁺ Cells	MAGH115
Mouse CD4 ⁺ CD25 ⁺ Regulatory T Cells	MAGM208
Human CD4 ⁺ CD25 ⁺ Regulatory T Cells	MAGH104
Rat CD4 ⁺ CD25 ⁺ Regulatory T Cells	MAGR304



Enrichment of CD4⁺ T Cells from Human PBMC Using the MagCelect Human CD4⁺ T Cell Isolation Kit (Catalog # MAGH102). Human peripheral blood mononuclear cells (PBMCs) before (A) and after (B) isolation of CD4⁺ T cells. Cells were stained with PE-conjugated Mouse Anti-Human CD3 ϵ Monoclonal Antibody (Catalog # FAB100P) and FITC-conjugated Mouse Anti-Human CD4 Monoclonal Antibody (Catalog # FAB3791F).

Differentiation of CD4⁺ T Cell Populations

The development of CD4⁺ T cell subsets is induced by distinct extracellular signals and is controlled by distinct transcription factors. CD4⁺ T cell subsets produce characteristic combinations of cytokines which enable them to exert diverse functions. The enrichment of desired CD4⁺ T cell subsets facilitates investigations into these subsets by reducing functional interference by other cell types.

Recombinant Cytokines

R&D Systems is the world's premier source of recombinant proteins. Extensive quality control produces industry leading bioactivity and lot-to-lot consistency that instills confidence in results and ensures reproducibility. Please see the back page for a sampling of our recombinant cytokines for CD4⁺ T cell differentiation.

CellXVivo™ Cell Differentiation and Expansion Kits

In addition to a wide range of high quality cytokines, we offer lymphocyte differentiation and expansion kits. These kits contain optimized concentrations of cytokine cocktails and validated, straightforward protocols.

CellXVivo Cell Differentiation Kits

T Cell Subset	Catalog #
Human Th1 Cells	CDK001
Human Th2 Cells	CDK002
Human Th17 Cells	CDK003