



Flow-compatible, tube-based isolation of human CD4⁺ T cells Dynabeads® FlowComp[™] Human CD4

- \rightarrow Positive isolation from MNC or directly from whole blood
- ightarrow No risk of your results being affected by the isolation method
- → Tube-based method—no columns needed
- → High purity and yield

Dynabeads[®] FlowComp[™] Human CD4 is an easy-to-use kit for positive isolation of flow-compatible CD4⁺ T cells by magnetic separation. Isolate viable, bead-free CD4⁺ T cells from mononuclear cells (MNC) or directly from human whole blood, for direct use in any cell-based assay. This kit utilizes the gentle Dynabeads[®] technology (Figure 1), which ensures your cells are not exposed to the stress of being passed through a column. In addition, you avoid exposing your cells to potentially cytotoxic or immunogenic substances like iron oxides or dextrans, a problem lately recognized in work with biodegradable nanoparticles.^{1,2}



Figure 1—Overview of the Dynabeads® FlowComp[™] Human CD4 isolation procedure.

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Isolate functional naive and memory T cells

With Dynabeads® FlowComp[™] Human CD4 you can expect >95% pure human CD4⁺ cells with up to 75% yield. The isolated cells have the presumed profile of memory and naive CD4⁺ T cells, and show a high proliferating capacity (Figure 2). Further, Dynabeads® FlowComp[™] Human CD4 does not contaminate the isolated CD4⁺ cells with CD14⁺ monocytes (Figure 3).



Figure 3—Effective cell separation with Dynabeads® FlowComp[™] Human CD4. Flow cytometry analysis illustrates that hardly any CD14⁺ monocytes are present after isolation of CD4⁺ T cells using Dynabeads® FlowComp[™] Human CD4.



Figure 2—Highly pure CD4⁺ T cells isolated from buffy coat using Dynabeads[®] FlowComp[™] Human CD4. Both naive (CD45RA⁺, top panel) and memory (CD45RO⁺, bottom panel) CD4⁺ T cells are present in the isolated population. T cells that were activated with Dynabeads[®] CD3/CD28 T Cell Expander for 3 days show high proliferating capacity (measured using CFSE labeling).

Ordering information

Product	Quantity	Cat. no.
Dynabeads® FlowComp™ Human CD4	Processes 2 x 10 ⁹ cells or 80 ml whole blood	113-61D
Related products		
Dynabeads® FlowComp™ Human CD8	Processes 2 x 10 ⁹ cells or 80 ml whole blood	113-62D
Dynabeads® FlowComp™ Human CD3	Processes 2 x 10 ⁹ cells or 80 ml whole blood	113-65D
Dynabeads® FlowComp™ Human NKp46	Processes 2 x 10 ⁹ cells	113-64D
Dynabeads® FlowComp™ Flexi	Processes 2 x 10 ⁹ cells	110-61D
Dynabeads* CD3/CD28 T Cell Expander	2 ml	111-31D
DynaMag [™] magnets	See www.invitrogen.com/magnets for magnet recommendations.	
CD4, Mouse Anti-Human, (R-PE)	0.5 ml/100 min tests	MHCD0404
SYTOX® Red Dead Cell Stain	1 ml	S34859
CD45, Mouse Anti-Human, (TRI-COLOR®)	0.5 ml/100 min tests	MHCD4506
CD25, Mouse Anti-Human, (TRI-COLOR®)	0.5 ml/100 min tests	MHCD2506
Vybrant® Apoptosis Assay Kit #2	1 kit	V13241
For current prices, please visit www.invitrogen.com.		

In addition to the products mentioned here, a range of products for positive as well as negative isolation of human and mouse cells is available. Learn more about the best starting point for your cell research at www.invitrogen.com/cellisolation.

References

- 1. Pisanic, T.R., II et al. (2007) Biomaterials 28:2572-2581.
- 2. Berry, C.C. et al. (2004) Biomaterials 25:5405-5413.



Dynal[®] provides magnetic separation technology that brings significantly greater reproducibility and flexibility to cell and biomolecule isolation.

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