

CD2, Human, Recombinant, 0.1 mg

Catalog Number **5086**

DESCRIPTION

CD2 is a surface antigen of the human T-lymphocyte lineage that is expressed on all peripheral blood T cells. It is one of the earliest T-cell markers, being present on more than 95% of thymocytes; it is also found on some natural killer cells but not on B lymphocytes. Monoclonal antibodies directed against CD2 inhibit the formation of rosettes with sheep erythrocytes, indicating that CD2 is the erythrocyte receptor or is closely associated with it. Recombinant CD2 protein could be used as coating matrix protein for study human T cells expansion *in vitro*.

Full-length extracellular domain of human CD2 gene (25 - 209 aa) was constructed with 31 N-terminal T7/His tag and expressed in *E. coli* as inclusion bodies. The final product was refolded using a unique "temperature shift inclusion body refolding" technology and chromatographically purified.

Characteristics

Parameter, Testing, and Method	CD2, Human, Recombinant Catalog # 5086
Quantity	0.1 mg (100 µg/vial)
Volume	0.2 mL
Concentration	0.5 mg/mL
Purity	≥90% as measured by SDS PAGE
Formulation	Formulated in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, L-Arginine, DTT and Glycerol.
Form	Solution
Production Type	Recombinant – <i>E. coli</i>
Storage Temperature	-20 °C
Shelf Life	12 months after receipt
Sterilization Method	Filtration
Cell Attachment Activity	Passes
Sterility	No growth
Accession No.	NP_001758
Recombinant Sequence	MASMTGGQQMGRGHHHHHGNLYFQGGFE LKEITNALETWGALGQDINLDIPSFQMSDDIDDIK WEKTSDDKKIAQFRKEKETFKEKDYKLFKNGT LKIKHLKTDDQDIYKVSIDYTKGKNVLEKIFDLKIQ ERVSKPKISWTCINTTLTCEVMNGTDPELNLYQ DGKHLKLSQRVITHKWTTLSAKFKCTAGNKVS KESSVEPVSCPEKGLD

APPLICATIONS

This product is for R&D use only and is not intended for human or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

INSTRUCTIONS FOR USE

Use these recommendations as guidelines to determine the optimal coating conditions for your culture system.

1. Thaw CD2 and dilute to desired concentration using serum-free medium or PBS. The final solution should be sufficiently dilute so that the volume added covers the surface evenly.

Note: Coating this recombinant protein at 1-10 µg / well (6 well plate) in T cell specific medium can be used for human T cell differentiation study *in vitro*.

2. Add appropriate amount of diluted material to culture surface.
3. Incubate at room temperature for approximately 1 – 2 hours.
4. Aspirate remaining material.
5. Rinse plates carefully with dH₂O– avoid scratching bottom surface of plates.
6. Plates are ready for use. They may also be stored at 2-8°C damp or air dried if sterility is maintained.

REFERENCES:

- (1) Schraven,B., et al. Association of CD2 and CD45 on human T lymphocytes. *Nature* 345 (6270), 71-74 (1990)
- (2) Baecher-Allan,C.M., et al. CD2 costimulation reveals defective activity by human CD4+CD25(hi) regulatory cells in patients with multiple sclerosis. *J. Immunol.* 186 (6), 3317-3326 (2011)
- (3) Kim,E.O., et al. Homotypic cell to cell cross-talk among human natural killer cells reveals differential and overlapping roles of 2B4 and CD2. *J. Biol. Chem.* 285 (53), 41755-41764 (2010)