

CD40, Human, Recombinant, 0.1 mg

Catalog Number 5093

DESCRIPTION

Human CD40 (TNRRSF5: tumor necrosis factor receptor superfamily member 5, isoform 2) is a 203 amino acid cell surface protein. This protein belongs to a member of the TNF-receptor superfamily. This receptor has been found to be essential in mediating a broad variety of immune and inflammatory responses including T cell-dependent immunoglobulin class switching, memory B cell development, and germinal center formation. AT-hook transcription factor AKNA is reported to coordinately regulate the expression of this receptor and its ligand, which may be important for homotypic cell interactions. Adaptor protein TNFR2 interacts with this receptor and serves as a mediator of the signal transduction. The interaction of this receptor and its ligand is found to be necessary for amyloid-beta-induced microglial activation, and thus is thought to be an early event in Alzheimer disease pathogenesis. Two alternatively spliced transcript variants of this gene encoding distinct isoforms have been reported.

Full-length extracellular domain of human CD40 gene (Isoform-II, 21-193 aa) was constructed with 31 N-terminal T7/His tag and expressed in E. coli as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

CHARACTERISTICS

| Parameter, Testing, and Method | CD40, Human, Recombinant Catalog # 5093 |
|--------------------------------|--|
| 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 – E. coli |
| Storage Temperature | Keep at -20°C for long term storage. Product is stable at 4 °C for at least 30 days |
| Shelf Life | 12 months after receipt |

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|--------------------------|--|
| Sterilization Method | Filtration |
| Cell Attachment Activity | Passes |
| Sterility | No growth |
| Accession No. | NP_690593 |
| Recombinant Sequence | MASMTGGQQMGRGHHHHHHGNLYFQG GEFELEPPTACREKQYLINSQCCSLCQPG QKLVSDCTEFTETECLPCGESEFLDTWNR ETHCHQHKYCDPNLGLRVQQKGTSETDTI CTCEEGWHCTSEACESCVLHRSCSPGFG VKQIATGVSDTICEPCPVGFFSNVSSAFEK CHPWTRSPGSAESPGGDPHHLRDPVCHP LGAGL |

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 CD40 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.
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.

Note: Coating this recombinant protein at 1-10 µg / well (6 well plate) in T cell specific medium can be used as coating matrix protein for study human B and T cell / Receptor interaction or as a highly purified protein which may be provided as culture matrix protein for human B cells culture *in vitro*.

REFERENCES

(1) Clark, E.A. et al. Activation of human B cells mediated through two distinct cell surface differentiation antigens, Bp35 and Bp50 PNAS 83 (12), 4494-4498 (1986).

(2) Foy, T.M., et al. gp39-CD40 interactions are essential for germinal center formation and the development of B cell memory J. Exp. Med. 180 (1), 157-163 (1994).

(3) Narayanan, P., et al. A composite MyD88/CD40 switch synergistically activates mouse and human dendritic cells for enhanced antitumor efficacy. J. Clin. Invest. 121 (4), 1524-1534 (2011).