

TROP-2 Protein, Human, Recombinant (His)

General Information

Synonyms:	TROP2;M1S1;GA733-1;TROP-2;GA7331;tumor-associated calcium signal transducer 2;GP50;EGP-1;EGP1;TACD2
Protein Construction:	A DNA sequence encoding the extracellular domain (Met1-Thr274) of human TROP2 (NP_002344.2) was expressed fused with a polyhistidine tag at the C-terminus. Predicted N terminal: His 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P09758
Molecular Weight:	29.4 kDa (predicted); 42-48 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Immobilized Anti-TROP2 Antibody at 2µg/mL (100 µL/well) can bind Recombinant Human TROP2/TACSTD2 Protein (His Tag) , the EC50 is 1.6-4.8 ng/mL. 2. Loaded Anti-Human TROP2 antibody, human IgG1 on ProA Biosensor, can bind Recombinant Human TROP2 Protein, His Tag with an affinity constant of 1.64 nM as determined in BLI assay (Routinely tested).
Purity:	> 96 % as determined by SDS-PAGE. ≥ 85 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

TROP-2, also referred to as tumor-associated calcium signal transducer 2 (TACSTD2), GA733-1 or M1S1, is a cell surface glycoprotein highly expressed in a wide variety of epithelial cancers. In contrast, there is little or no expression of Trop-2 in adult somatic tissue. Because it is a cell surface protein that is selectively expressed in tumor cells, Trop-2 is a potential therapeutic target. The cytoplasmic tail of Trop-2 possesses potential serine and tyrosine phosphorylation sites and a phosphatidylinositol binding consensus sequence. Trop-2 transduces an intracellular calcium signal, which are consistent with the hypothesis that it acts as a cell surface receptor and support a search for a physiological ligand. TROP2 encoding by an intronless gene was originally defined by the monoclonal antibody GA733, and is a member of a family of at least two type I membrane proteins. The other known member is GA733-2, also called EpCAM and TROP1. It has been suggested by studies that the GA733-1 gene was formed by the retroposition of the GA733-2 gene via an mRNA intermediate.

Reference

Ripani E, et al. (1998) Human Trop-2 is a tumor-associated calcium signal transducer. *Int J Cancer*. 76(5): 671-6.
Wang J, et al. (2008) Identification of Trop-2 as an oncogene and an attractive therapeutic target in colon cancers. *Mol Cancer Ther*. 7(2): 280-5.

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