

## TROP-2 Protein, Human, Recombinant (His & Avi), Biotinylated

### General Information

Synonyms:	EGP-1;GA733-1;GP50;TACD2;TROP2;EGP1;TROP-2;M1S1;GA7331;tumor-associated calcium signal transducer 2
Protein Construction:	A DNA sequence encoding the human TACSTD2 (NP_002344.2) (Met1-Thr274) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: His 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_002344.2
Molecular Weight:	31.14 kDa (predicted); 48.07 kDa (reducing conditions)

### QC Testing

Biological Activity:	Loaded Anti-Human TROP2 antibody, human IgG1 on ProA Biosensor, can bind Recombinant Human TROP2 Protein, His Tag with an affinity constant of 0.373nM as determined in BLI assay (Routinely tested).
Purity:	> 95 % as determined by SDS-PAGE. > 90 % 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 25 mM Sodium Citrate, 200 mM NaCl, 0.02% Tween 80, 10% Trehalose, pH 6.0. 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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### 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.

Actual storage temperature shall be subject to the COA.

#### 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 phosphatidyl-inositol 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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