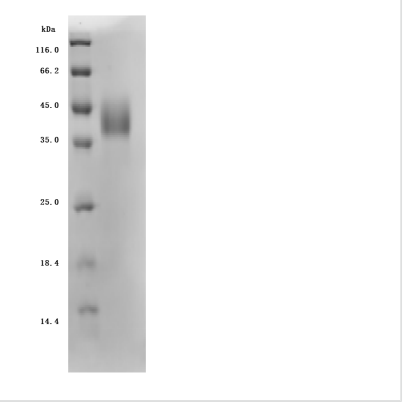
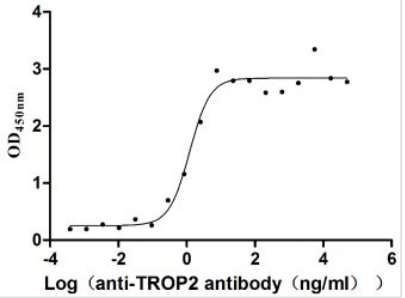
Recombinant Human Tumor-associated calcium signal transducer 2 (TACSTD2), partial (Active)

Product Code	CSB-MP023072HU2
Abbreviation	Recombinant Human TACSTD2 protein, partial (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P09758
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized Human TROP2 at 2 μg/mL can bind Anti-TROP2 recombinant antibody (CSB-RA023072MA1HU), the EC50 is 0.9108-1.640 ng/mL.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	QDNCTCPTNKMTVCSPDGPGGRCQCRALGSGMAVDCSTLTSKCLLLKARMS APKNARTLVRPSEHALVDNDGLYDPDCDPEGRFKARQCNQTSVCWCVNSVG VRRTDKGDLSLRCDELVRTHHILIDLRHRPTAGAFNHSDLDAELRRLFRERYRL HPKFVAAVHYEQPTIQIELRQNTSQKAAGDVDIGDAAYYFERDIKGESLFQGR GGLDLRVRGEPLQVERTLIYYLDEIPPKFSMKRLT
Source	Mammalian cell
Target Names	TACSTD2
Expression Region	31-274aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 10xHis-tagged
Mol. Weight	30.3 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Activity
Measured by its binding ability in a functional ELISA. Immobilized Human TROP2 at 2 μgg/mL can bind Anti-TROP2 recombinant antibody (CSB-RA023072MA1HU), the EC_{50} is 0.9108-1.640 ng/mL.

Description

The recombinant human TACSTD2 protein is produced through mammalian cell expression of a plasmid containing the target gene for amino acids 31-274 of the human TACSTD2. The target gene fragment is co-expressed with the C-terminal 10xHis-tag gene. SDS-PAGE analysis reveals a purity of this TACSTD2 protein greater than 95%, and endotoxin levels measured by the LAL method are less than 1.0 EU/μg. ELISA confirms the TACSTD2 protein's biological activity with specific TACSTD2 recombinant antibody (CSB-RA023072MA1HU) binding, achieving an EC_{50} range of 0.9108 to 1.640 ng/mL.

Human TACSTD2 (TROP2) is a type I transmembrane glycoprotein that plays a significant role in various cellular processes, particularly in the context of cancer biology. It is widely expressed in various epithelial tumors, including breast, prostate, lung, and colorectal cancers [1][2][3].

TACSTD2 functions primarily as a calcium signal transducer and is involved in the regulation of intracellular calcium levels. This calcium signaling is crucial for various cellular functions, including proliferation, migration, and invasion of cancer cells [6][7]. TACSTD2 has been shown to activate several intracellular signaling pathways, notably the MAPK and PI3K/AKT pathways, which are essential for tumor growth and metastasis [6][7]. Studies have demonstrated that TACSTD2 can enhance the invasion of cancer cells by modulating matrix metalloproteinase activity through ERK and JNK signaling pathways [8][7].

Moreover, TACSTD2 is associated with the epithelial-mesenchymal transition (EMT), a process that enables epithelial cells to acquire migratory and invasive properties, which is a hallmark of cancer progression [9]. The expression of TACSTD2 is often upregulated in various cancers, correlating with poor prognosis and increased metastatic potential [2][3][10]. In prostate cancer,

TACSTD2 has been identified as a marker that distinguishes a subpopulation of cells with stem cell-like characteristics, further implicating its role in tumorigenesis [11].

References:

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Endotoxin	Less than 1.0 EU/ug as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the

	contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.