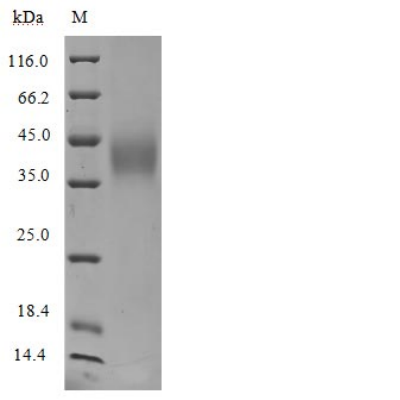
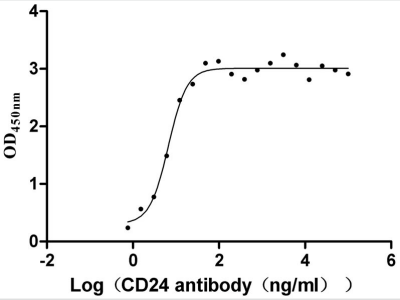
Recombinant Human Signal transducer CD24 (CD24)-Nanoparticle (Active)

Product Code	CSB-MP004902HU
Abbreviation	Recombinant Human CD24 protein-Nanoparticle (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.	P25063
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 CD24 at 2 μg/ml can bind anti-CD24 recombinant Monoclonal Antibody , the the EC_{50} is 5.409-8.219 ng/ml.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	SETTTGTSSNSSQSTSNSGLAPNPTNATTKAAG
Research Area	cancer
Source	Mammalian cell
Target Names	CD24
Expression Region	27-59aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	25.7 kDa
Protein Length	Full Length of Mature Protein
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 CD24 at 2 μg/ml can bind anti-CD24 recombinant Monoclonal Antibody , the the EC_{50} is 5.409-8.219 ng/ml.

Description

The recombinant human CD24 protein is produced in mammalian cells through nanoparticle technology. The gene segment encoding the 27-59aa region of the human CD24 is co-cloned into a plasmid with an N-terminal 6xHis-tag gene. The recombinant plasmid is combined with the nanoparticles to form complexes, which are transfected into mammalian cells. After transfection, the cells will synthesize CD24 protein under the action of their endogenous translation mechanism. ?he cells are lysed to release the CD24 proteins, which are purified by affinity chromatography from the cell lysate. The purity of the recombinant CD24 protein is over 95% as measured by SDS-PAGE. The LAL assay shows its endotoxin levels are less than 1.0 EU/μg. ELISA reveals its binding to the CD24 recombinant monoclonal antibody with an EC_{50} of 5.409-8.219 ng/mL.

The human CD24 protein is a small, heavily glycosylated glycosylphosphatidylinositol (GPI)-anchored cell surface protein [1]. It has been identified as a ligand for P-selectin, an adhesion receptor on activated platelets and endothelial cells [1][2][3][4].

CD24 plays a significant role in tumor metastasis and invasion. During metastasis, tumor cells can bind to platelets or endothelial cells through the interaction between CD24 and P-selectin, allowing them to escape into the bloodstream and increase their metastatic potential [2][3][4][5]. Studies have shown that CD24 expression is associated with the metastatic phenotype in various malignant tumors, including hepatocellular carcinoma, lung cancer, colorectal cancer, and bladder cancer [6][7][8].

In addition to its role in metastasis, CD24 has also been linked to other cellular processes in cancer, such as proliferation, survival, and drug resistance. CD24 can activate integrin function, which is important for cell-cell and cell-matrix

interactions, and can also modulate signaling pathways like the Ral GTPase and NF-κB pathways [9][10][11]. Overexpression of CD24 has been related to poor prognosis in various cancer types, including hepatocellular carcinoma, bladder cancer, and breast cancer [6][7][8].

Furthermore, CD24 has been identified as a potential therapeutic target in cancer. Targeting CD24 with antibodies or other approaches has been shown to suppress tumor growth and influence the cytokine milieu in experimental models of cancer [12]. Additionally, CD24 has been implicated in mediating immune tolerance at the fetal-maternal boundary and in regulating the immune response to tissue damage [13][14].

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.