

## CD164 Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	CD164 molecule, sialomucin
Protein Construction:	A DNA sequence encoding the rat CD164 (Q9QX82) (Met1-Asp160) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 24
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q9QX82
Molecular Weight:	41.3 kDa (predicted); 90 and 35 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
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:

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

Sialomucin core protein 24 also known as endolyn or CD164 (cluster of differentiation 164) is a novel 80- to 90-kD mucin-like molecule expressed by human CD34+ hematopoietic progenitor cells. Isoform 1 and isoform 3 of CD164 are expressed in hematopoietic and non-hematopoietic tissues. Isoform 1 is expressed by prostate cancer tumors and prostate cancer cell lines. The expression is greater in bone metastases than in primary tumors. Expression in osseous metastasis is greater than that in soft tissue metastasis. Isoform 2 of CD164 is expressed in the small

intestine, colon, lung, thyroid and colorectal and pancreatic adenocarcinoma. Isoform 4 is expressed by both hematopoietic progenitor cells and bone marrow stromal cells. CD164 belongs to the CD164 family. The cluster of differentiation (cluster of designation) (often abbreviated as CD) is a protocol used for the identification and investigation of cell surface molecules present on white blood cells initially but found in almost any kind of cell of the body, providing targets for immunophenotyping of cells. CD164 may play an important role in prostate cancer metastasis and the infiltration of bone marrow by cancer cells. CD164 promotes myogenesis by enhancing CXCR4-dependent cell motility. This protein positively regulates myoblast migration and promotes myoblast fusion into myotubes. CD164 may play a key role in hematopoiesis by facilitating the adhesion of CD34+ cells to bone marrow stroma and by negatively regulating CD34+hematopoietic progenitor cell growth.

### Reference

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Doyonnas R,et al.(2000) CD164 monoclonal antibodies that block hemopoietic progenitor cell adhesion and proliferation interact with the first mucin domain of the CD164 receptor. *J Immunol*. 165(2): 840-51.  
Zannettino AC,et al.(1998) The sialomucin CD164 (MGC-24v) is an adhesive glycoprotein expressed by human hematopoietic progenitors and bone marrow stromal cells that serves as a potent negative regulator of hematopoiesis. *Blood*. 92(8): 2613-28.

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