

## CD23 Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	Fc fragment of IgE receptor II;FCER2;Fcer2a
Protein Construction:	A DNA sequence encoding the rat FCER2 (Q6AZ45) (Glu50-Pro331) was expressed with Fc region of human IgG1 at the N-terminus. Predicted N terminal: Glu
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q6AZ45
Molecular Weight:	77.7 kDa (predicted); 61 kDa (reducing condition, due to glycosylation)

### 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:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m 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

Fc fragment of IgE, low affinity II, receptor for (CD23) or CD23 antigen is a member of the cluster of differentiation 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. Physiologically, CD molecules can act in numerous ways, often acting as receptors or ligands (the molecule that activates a receptor) important to

the cell. A signal cascade is usually initiated, altering the behavior of the cell (see cell signaling). Some CD proteins do not play a role in cell signaling, but have other functions, such as cell adhesion. CD23/FCER2 is a B-cell specific antigen, and a low-affinity receptor for IgE. It has essential roles in B cell growth and differentiation, and the regulation of IgE production. This protein also exists as a soluble secreted form, then functioning as a potent mitogenic growth factor. Increased levels of soluble CD23/FCER2 cause the recruitment of non-sensitised B-cells in the presentation of antigen peptides to allergen-specific B-cells, therefore increasing the production of allergen specific IgE. IgE, in turn, is known to upregulate the cellular expression of CD23 and Fc epsilon RI (high-affinity IgE receptor).

### Reference

- Aubry JP, et al. (1992) CD21 is a ligand for CD23 and regulates IgE production. *Nature*. 358(6386): 505-7.
- Punnonen J, et al. (1993) Interleukin 13 induces interleukin 4-independent IgG4 and IgE synthesis and CD23 expression by human B cells. *Proc Natl Acad Sci U S A*. 90(8): 3730-4.
- Yu P, et al. (1994) Negative feedback regulation of IgE synthesis by murine CD23. *Nature*. 369(6483): 753-6.

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