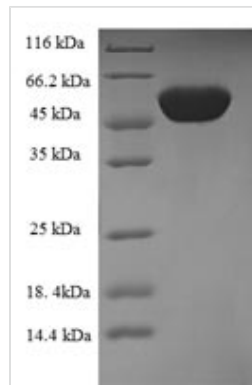




Recombinant Human IgG receptor FcRn large subunit p51 (FCGRT), partial

Product Code	CSB-EP008545HU
Relevance	Binds to the Fc region of monomeric immunoglobulins gamma. Mediates the uptake of IgG from milk. Possible role in transfer of immunoglobulin G from mother to fetus.
Abbreviation	Recombinant Human FCGRT protein, partial
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.	P55899
Alias	IgG Fc fragment receptor transporter alpha chainNeonatal Fc receptor
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AESHLSLLYHLTAVSSPAPGTPAFWVSGWLGPQQYLSYNSLRGEAEP CGAW VWENQVSWYWEKETTDLRIKEKLFLEAFKALGGKGPYTLQGLLGCELGPDNT SVPTAKFALNGEEFMNFDLKQGTWGGDWPEALAISQRWQQQDKAANKELTF LLFSCPHRLREHLERGRGNLEWKEPPSMRLKARPSSPGFSVLTCSAFSFYPP ELQLRFLRNGLAAGTGQGDFGPNSDGSFHASSSLTVKSGDEHHYCCIVQHAG LAQPLRVELESPAKSS
Research Area	Immunology
Source	E.coli
Target Names	FCGRT
Expression Region	24-297aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	57.4kDa
Protein Length	Extracellular Domain
Image	



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

Description

Recombinant human FCGRT is produced by expressing the expression vector that contains the human FCGRT gene segment (24-297aa) and the N-terminal GST-tag gene in *E. coli*. As confirmed by SDS-PAGE, this high-quality recombinant FCGRT protein achieves over 90% purity and is available in liquid or lyophilized powder forms. Ideal for studies in immunology, this recombinant FCGRT ensures reliable and consistent results for your research needs.

The human FCGRT protein is a critical component of the immune system, primarily involved in transporting and regulating immunoglobulin G (IgG) antibodies. It plays a pivotal role in the transcytosis of maternal IgG across the placenta, facilitating passive immunity from mother to fetus [3][4].

FCGRT operates through a pH-dependent mechanism, exhibiting a high affinity for IgG at acidic pH levels, such as those found in endosomes while releasing IgG at neutral pH, typical of the extracellular environment [3][5]. This property is essential for maintaining serum IgG levels and prolonging the half-life of IgG antibodies in circulation, which is crucial for effective immune responses [2][5]. Additionally, FCGRT is involved in recycling IgG and albumin, contributing to their homeostasis within the body [1][6].

References:

- [1] S. Reznik, A. Tiwari, & C. Ashby, Efgartigimod, an fcγn antagonist, as a potential treatment for post covid-19 syndrome, *Acta Materia Medica*, vol. 2, no. 2, 2023. <https://doi.org/10.15212/amm-2023-0004>
- [2] M. Babamohamadi, Anti-ctla-4 nanobody as a promising approach in cancer immunotherapy, *Cell Death and Disease*, vol. 15, no. 1, 2024. <https://doi.org/10.1038/s41419-023-06391-x>
- [3] D. Ferguson and J. Blanco, Regulation of the human fc-neonatal receptor alpha-chain gene fcgrt by microrna-3181, *Pharmaceutical Research*, vol. 35, no. 1, 2018. <https://doi.org/10.1007/s11095-017-2294-0>
- [4] M. Yoshida, K. Kobayashi, T. Kuo, L. Bry, J. Glickman, S. Claypoole et al., Neonatal fc receptor for igg regulates mucosal immune responses to luminal bacteria, *Journal of Clinical Investigation*, vol. 116, no. 8, p. 2142-2151, 2006. <https://doi.org/10.1172/jci27821>
- [5] M. Pyzik, L. Kozicky, A. Gandhi, & R. Blumberg, The therapeutic age of the neonatal fc receptor, *Nature Reviews Immunology*, vol. 23, no. 7, p. 415-432, 2023. <https://doi.org/10.1038/s41577-022-00821-1>
- [6] J. Cervenak, B. Bender, Z. Schneider, M. Magna, B. Carstea, K. Liliomet et al.,



Neonatal fcr overexpression boosts humoral immune response in transgenic mice, The Journal of Immunology, vol. 186, no. 2, p. 959-968, 2011.
<https://doi.org/10.4049/jimmunol.1000353>

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.