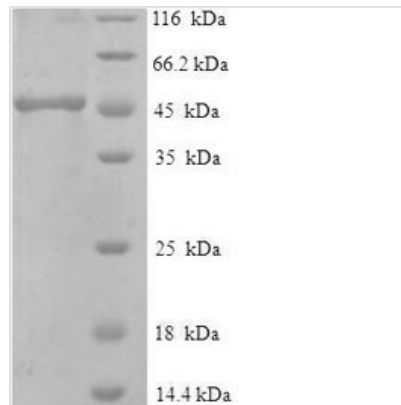




Recombinant Macaca fascicularis IgG receptor FcRn large subunit p51 (FCGRT), partial

Product Code	CSB-EP851443MOV
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 Cynomolgus monkey 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.	Q8SPV9
Alias	IgG Fc fragment receptor transporter alpha chainNeonatal Fc receptor
Product Type	Recombinant Protein
Immunogen Species	Macaca fascicularis (Crab-eating macaque) (Cynomolgus monkey)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AESHLSLLYHLTAVSSPAPGTPAFWVSGWLGPQQYLSYDSLARGQAEP CGAW VWENQVSWYWEKETTDLRIKEKLFLEAFKALGGKGPYTLQGLLGCELS PDNT SVPTAKFALNGEEFMNFDLKQGTWGGDWPEALAISQRWQQQDKAANKELTF LLFSCPHRLREHLERGRGNLEWKEPPSMRLKARPGNPGFSVLTCSAFSFYPP ELQLRFLRNGMAAGTGQGDFGPNSDGSFHASSSLTVKSGDEHHYCCIVQHA GLAQPLRVELETPAKSS
Research Area	Others
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 6xHis-SUMO-tagged
Mol. Weight	46.4kDa
Protein Length	Extracellular Domain
Image	



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

Description

To create the recombinant *Macaca fascicularis* FcGRT protein, we use genetic engineering techniques to insert a gene fragment that encodes the 24-297aa of *Macaca fascicularis* FcGRT into *E. coli* through a plasmid. The N-terminal 6xHis-SUMO-tag gene is also cloned into the plasmid. The *E. coli* serves as a factory for producing the recombinant FcGRT protein using its cellular machinery. The resulting products undergo affinity chromatography purification, reaching a purity of over 90% as measured by SDS-PAGE.

The FcGRT protein is a critical component of the neonatal Fc receptor (FcRn), which is significant in regulating immunoglobulin G (IgG) and albumin levels in the bloodstream. It is structurally similar to MHC class I molecules and is essential for IgG recycling, extending its half-life in circulation. The FcGRT gene is located on chromosome 19q13.35 and exhibits polymorphisms that can influence the expression levels of the FcRn protein, which in turn affects immune responses and susceptibility to various diseases, including autoimmune disorders and cancers [1][2][3].

FcGRT functions primarily by binding to IgG in acidic endosomal compartments, allowing for the recycling of IgG back to the extracellular space, which prevents its degradation in lysosomes [4][5]. This mechanism is important in maintaining IgG levels during immune responses, as it allows for the sustained presence of antibodies in circulation, which is crucial for effective immune surveillance and response [6]. Increased expression of FcGRT has been associated with certain cancers, such as glioma, where it mediates the malignant phenotype by prolonging IgG half-life and enhancing immune evasion [4].

References:

- [1] Z. Zhang, Rescue treatment with add-on efgartigimod in a patient with impending myasthenic crisis: a case report, *Therapeutic Advances in Neurological Disorders*, vol. 17, 2024. <https://doi.org/10.1177/17562864241254895>
- [2] A. Fisse, Association of the neonatal fc receptor promoter variable number of tandem repeat polymorphism with immunoglobulin response in patients with chronic inflammatory demyelinating polyneuropathy, *European Journal of Neurology*, vol. 31, no. 4, 2024. <https://doi.org/10.1111/ene.16205>
- [3] M. Dalakas and P. Spaeth, The importance of fcRn in neuro-immunotherapies: from igg catabolism, fcgrt gene polymorphisms, ivig dosing and efficiency to specific fcRn inhibitors, *Therapeutic Advances in Neurological*



Disorders, vol. 14, p. 175628642199738, 2021.

<https://doi.org/10.1177/1756286421997381>

[4] G. Wang, Z. Wang, T. Ma, J. Pan, H. Ge, T. Yanet al., Fcgrt, a cancer-derived immunoglobulin g binding protein, mediates the malignant phenotype of glioma,, 2023. <https://doi.org/10.21203/rs.3.rs-3217723/v1>

[5] 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>

[6] 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>

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.