



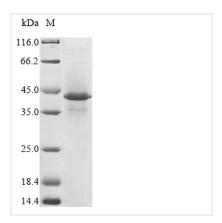


Recombinant Human HLA class I histocompatibility antigen, alpha chain G (HLA-G)

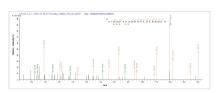
Product Code	CSB-MP010509HU
Relevance	Involved in the presentation of foreign antigens to the immune syst. Plays a role in maternal tolerance of the fetus by mediating protection from the deleterious effects of natural killer cells, cytotoxic T-lymphocytes, macrophages and mononuclear cells.
Abbreviation	Recombinant Human HLA-G protein
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.	P17693
Alias	HLA G antigen;MHC class I antigen G
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	GSHSMRYFSAAVSRPGRGEPRFIAMGYVDDTQFVRFDSDSACPRMEPRAPW VEQEGPEYWEEETRNTKAHAQTDRMNLQTLRGYYNQSEASSHTLQWMIGCD LGSDGRLLRGYEQYAYDGKDYLALNEDLRSWTAADTAAQISKRKCEAANVAE QRRAYLEGTCVEWLHRYLENGKEMLQRADPPKTHVTHHPVFDYEATLRCWA LGFYPAEIILTWQRDGEDQTQDVELVETRPAGDGTFQKWAAVVVPSGEEQRY TCHVQHEGLPEPLMLRWKQSSLPTIPIMGIVAGLVVLAAVVTGAAVAAVLWRK KSSD
Source	Mammalian cell
Target Names	HLA-G
Expression Region	25-338aa
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	39.6kDa
Protein Length	Full Length of Mature Protein

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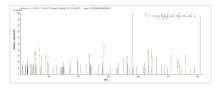




(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of Mammalian Cell host and target protein, the LC-MS/MS Analysis result of CSB-MP010509HU could indicate that this peptide derived from Mammalian Cell-expressed Homo sapiens(Human) HLA-G.



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Description

The production of recombinant human HLA class I histocompatibility antigen, alpha chain G (HLA-G) typically involves gene cloning, expression in a host system, and purification. The gene corresponding to the HLA-G protein (25-338aa) is cloned into a vector along with the N-terminal 6xHis-tag gene and then transformed into mammalian cells. The mammalian cells are cultured under conditions that promote protein expression. The expressed protein is then extracted and purified using methods like affinity chromatography, ensuring a high-quality product for various applications in related research. Its purity is greater than 90% as determined by SDS-PAGE.

HLA-G is a non-classical major histocompatibility complex (MHC) class I antigen with limited polymorphism, setting it apart from classical MHC-I antigens like HLA-A, HLA-B, and HLA-C [1][4]. HLA-G is uniquely expressed on extra-villous trophoblast cells at the fetal-maternal interface, where it protects the fetus from maternal uterine natural killer cell cytolysis [2][3].

HLA-G plays a crucial role in immune modulation by inhibiting the cytotoxicity of natural killer cells [2]. Research has shown that HLA-G upregulation is linked to cervical premalignant and malignant lesions [5]. This antigen is also significant for pregnancy maintenance, with studies indicating that a 14-bp deletion in the HLA-G gene may affect pregnancy outcomes [6][7].

References:

[1] X. Xu, Y. Zhou, & H. Wei, Roles of hla-g in the maternal-fetal immune microenvironment, Frontiers in Immunology, vol. 11, 2020.

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https://doi.org/10.3389/fimmu.2020.592010

[2] N. Rouas? Freiss, R. Marchal, M. Kirszenbaum, J. Dausset, & E. Carosella, The α1domain of hla-g1 and hla-g2 inhibits cytotoxicity induced by natural killer cells: is hla-q the public ligand for natural killer cell inhibitory?receptors?, Proceedings of the National Academy of Sciences, vol. 94, no. 10, p. 5249-5254, 1997. https://doi.org/10.1073/pnas.94.10.5249

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[4] N. PATEL, M. Patel, P. Koringa, T. Shah, A. Patel, A. Tripathiet al., Human leukocyte antigen alleles, genotypes and haplotypes frequencies in renal transplant donors and recipients from west central india, Indian Journal of Human Genetics, vol. 19, no. 2, p. 219, 2013.

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https://doi.org/10.1111/j.1399-0039.2010.01607.x

[6] P. Tripathi, A. Abbas, S. Naik, & S. Agrawal, Role of 14?bp deletion in the hla?g gene in the maintenance of pregnancy, Tissue Antigens, vol. 64, no. 6, p. 706-710, 2004. https://doi.org/10.1111/j.1399-0039.2004.00308.x

[7] U. Shankarkumar, A. Shankarkumar, & K. Ghosh, Role of 14-bp deletion/insertion polymorphism in exon 8 of the hla-g gene in recurrent spontaneous abortion patients, Journal of Human Reproductive Sciences, vol. 4, no. 3, p. 143, 2011. https://doi.org/10.4103/0974-1208.92289

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.