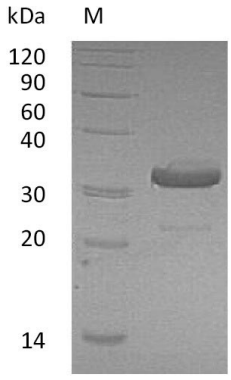
Recombinant Human Immunoglobulin heavy constant gamma 1 (IGHG1) (D239E,L241M), partial (Active)

Product Code	CSB-AP005531HU
Abbreviation	Recombinant Human IGHG1 protein (D239E,L241M), partial (Active)
Uniprot No.	P01857
Storage Buffer	Lyophilized from a 0.2 μm filtered 1xPBS, pH 7.4.
Product Type	Others
Immunogen Species	Homo sapiens (Human)
Biological Activity	The ED50 as determined by its ability to bind Human FCGR3A in functional ELISA is less than 10 ug/ml.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK
Research Area	Cancer
Source	Mammalian cell
Target Names	IGHG1
Expression Region	104-330aa(D239E,L241M)
Tag Info	Tag-Free
Mol. Weight	25.9 kDa
Protein Length	Partial

Image



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

Description

Incorporation of the gene encoding the human immunoglobulin heavy constant gamma 1 (IGHG1) protein (104-330aa(D239E, L241M)) into a plasmid vector forms recombinant plasmid, which is then transformed into mammalian cells. Mammalian cells containing the recombinant plasmid that can survive in the presence of a specific antibiotic are selected and cultured under conditions conducive to the expression of the target gene. Following expression, the recombinant human IGHG1 protein is isolated and purified from the cell lysate using affinity purification. Denaturing SDS-PAGE is then employed to resolve the resulting recombinant IGHG1 protein (D239E, L241M), demonstrating a purity greater than 95%. This protein contains endotoxin less than 1.0 EU/μg as determined by the LAL method. It has been validated as active in a functional ELISA.

The protein IGHG1, also called immunoglobulin gamma-1 heavy chain constant region, has gained attention in cancer research. It's been found to be more active in several types of cancer, such as gastric, brain, pancreatic, colorectal, breast, prostate, ovarian, and triple-negative breast cancers [1][2][3][4][5][6][7][8]. Its increased activity seems to encourage cancer growth, spread, and blood vessel formation [1][5]. In pancreatic cancer, it's even been linked to making tumors resistant to treatment [3], and in gastric cancer, it nudges cells into a more aggressive state [9]. Some suggest it might help cancer cells dodge the immune system too [10][11].

We've spotted IGHG1 in samples from various tumors like breast, lung, and oral cancers, plus in lab-grown cancer cells [12]. Shutting down IGHG1 in prostate cancer cells seems to slow their growth and make them more likely to self-destruct [13][14]. It's also been tied to how cancers progress [3].

Beyond cancer, IGHG1 seems to pitch in with the immune system by helping present antigens, forming part of the cell's framework, and grabbing onto antigens [2]. In triple-negative breast cancer, it might even hint at a better outcome [8]. And it's not just cancers - it's found in cells making antibodies and is a key player in certain nerve cells [15].

References:
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Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
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.