pFB-CHIg-hG1e7: Human IgG1 Mammalian Expression Vector with Increased half-life

SKU#: AFV-07

Product Overview

pFB-CHIg-hG1e7 is a cloning vector that expresses the human IgG1 heavy chain constant region with **T307A / E380A / N434A** mutations. It is a constitutive mammalian expression vector designed to deliver exceptionally high levels of antibody expression. This circular vector features an enhanced, full-length CMV promoter and other expression elements that typically enable higher expression levels. It can be used in suspension-adapted cells, such as Expi293F™ and ExpiCHO™, for transient protein expression. Additionally, it can serve as a Geneticin®-selectable expression plasmid for engineering stable cell lines. The vector carries an ampicillin resistance gene.

Characteristics

Fc engineered human IgG1 expression with **T307A / E380A / N434A** mutations:
- Increased binding to FcRn
- Increased half-life

Specifications

Antibiotic Resistance	Ampicillin (Amp^R)
Constitutive or Inducible System	Constitutive
Delivery Type	Transfection
Promoter	CMV
Product Type	Mammalian Expression Vector
Cloning Method	Restriction Enzyme (5'-AgeI; 3'-XhoI) or Homologous Assembly

Contents & Storage

- 20 µg of **pFB-CHIg-hG1e7** in Tris-EDTA buffer
- Store at -20°C. Vectors are guaranteed stable for 6 months when properly stored.

Materials required for Fc engineered antibody generation

- pFB-CLIg-hk or pFB-CLIg-hl plasmid that expression the constant region of the human kappa or lambda light chain.

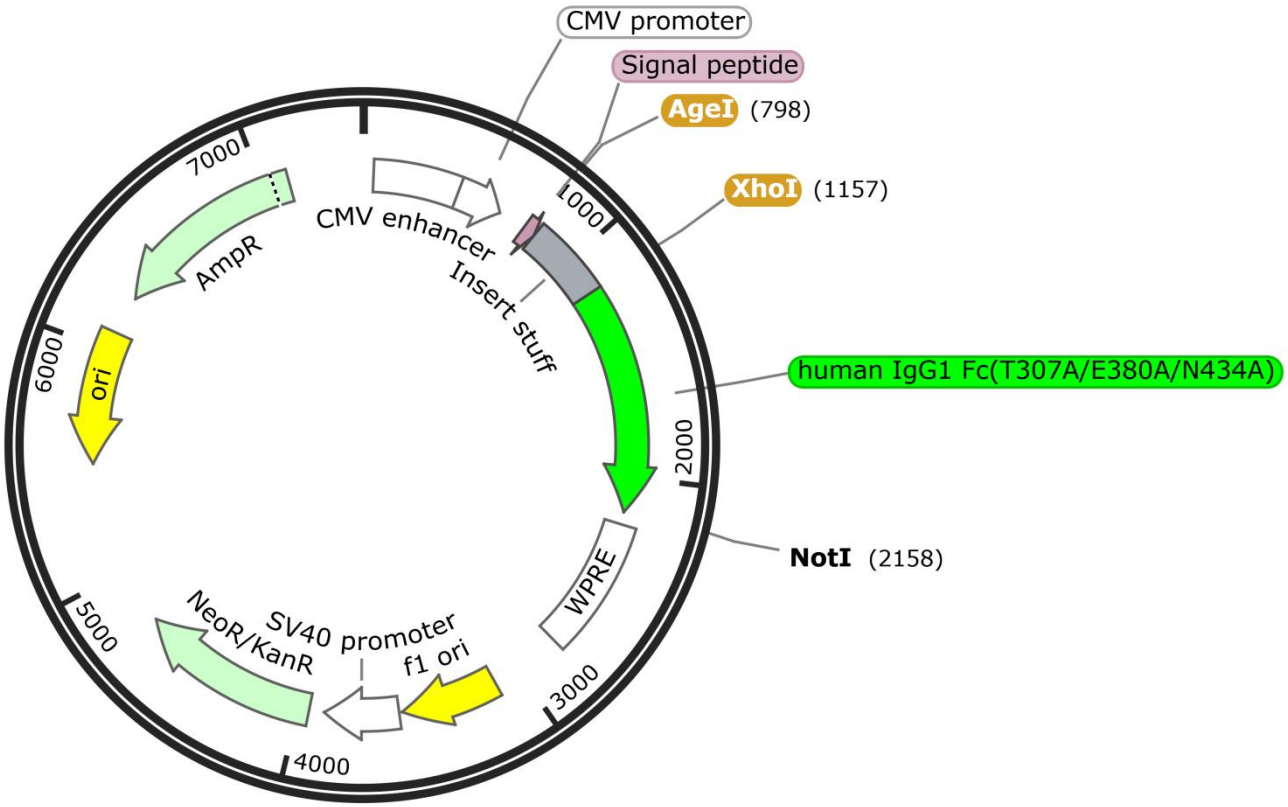
Steps for Fc engineered antibody generation

- Cloning your heavy chain variable region (VH) into **pFB-CHIg-hG1e7** vector to make heavy chain expression plasmid;
- Cloning your light chain variable region (VL) into pFB-CLIg-hk or pFB-CLIg-hl vector to make light chain expression plasmid
- Co-transfecting both heavy chain and light chain expression plasmids into your desired mammalian cell (such as CHO, HEK293) for Fc engineered antibody production.

References

1. Shields et al., 2001. High resolution mapping of the binding site on human IgG1 for Fc gamma, R.I.; Fc gamma RII, Fc gamma RIII, and FcRn and design of IgG1 variants with improved binding to the Fc gamma, R. J. Biol. Chem. 276, 6591–6604.
2. Petkova et al., 2006. Enhanced half-life of genetically engineered human IgG1 antibodies in a humanized FcRn mouse model: Potential application in humorally mediated autoimmune disease. Int. Immunol.18, 1759–1769.

Vector map



Fusion BioLabs human IgG1 Fc engineered vector

7435 bp