



## **pFB-CHlg-hG1e5: Human IgG1 Mammalian Expression Vector with Reduced ADCC and CDC**

SKU#: AFV-05

### **Product Overview**

pFB-CHlg-hG1e5 is a cloning vector that expresses the human IgG1 heavy chain constant region with **N297Q** mutation. 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 **N297Q** mutation:

- No binding to FcγRIIIa and FcγRIIb
- Reduced ADCC & CDC

### **Specifications**

<b>Antibiotic Resistance</b>	Ampicillin (Amp <sup>R</sup> )
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**

- 5.0 µg of **pFB-CHlg-hG1e5** 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-CLlg-hk or pFB-CLlg-hl plasmid that expression the constant region of the human kappa or lambda light chain.

### **Steps for Fc engineered antibody generation**

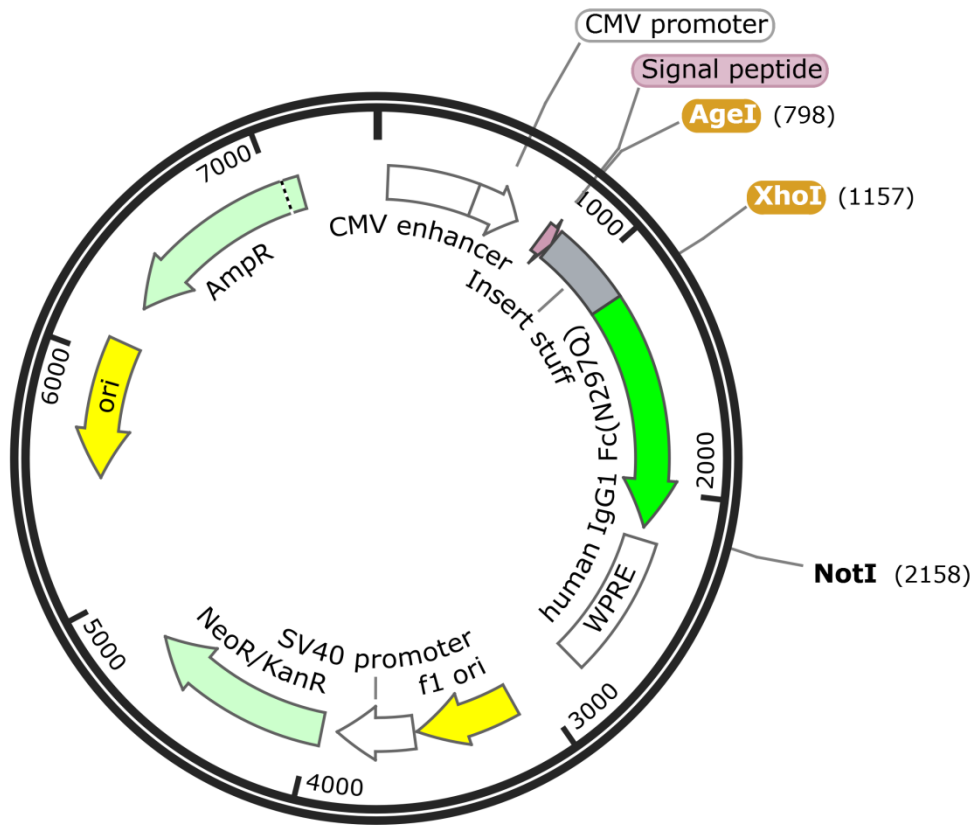
- Cloning your heavy chain variable region (VH) into **pFB-CHlg-hG1e5** vector to make heavy chain expression plasmid;
- Cloning your light chain variable region (VL) into pFB-CLlg-hk or pFB-CLlg-hl vector to make light chain expression plasmid
- Co-transfecting both heavy chain and light chain expression plasmids into your desired mammalian cell (such as CHO, HEK293) for Fc engineered antibody production.



### References

1. Walker et al., 1989. Aglycosylation of human IgG1 and IgG3 monoclonal antibodies can eliminate recognition by human cells expressing Fc gamma RI and/or Fc gamma RII receptors. *Biochem. J.* 259, 347–353.
2. Sazinsky et al., 2008. Aglycosylated immunoglobulin G1 variants productively engage activating Fc receptors. *Proc. Natl. Acad. Sci. USA* 2008, 105, 20167–20172.
3. Jo et al., 2018. Engineered aglycosylated full-length IgG Fc variants exhibiting improved FcγRIIIa binding and tumor cell clearance. *MAbs* 2018, 10, 278–289.

### Vector map



### Fusion BioLabs human IgG1 Fc engineered vector

7435 bp