



# pFB-CHlg-hG4e1: Human IgG4 Mammalian Expression Vector with Reduced Fab-arm Exchange

SKU#: AFV-09

## Product Overview

pFB-CHlg-hG4e1 is a cloning vector that expresses the human IgG4 heavy chain constant region with **S228P** 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 IgG4 expression with **S228P** mutation:

- Reduced Fab-arm exchange

## Specifications

Antibiotic Resistance	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-hG4e1** 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

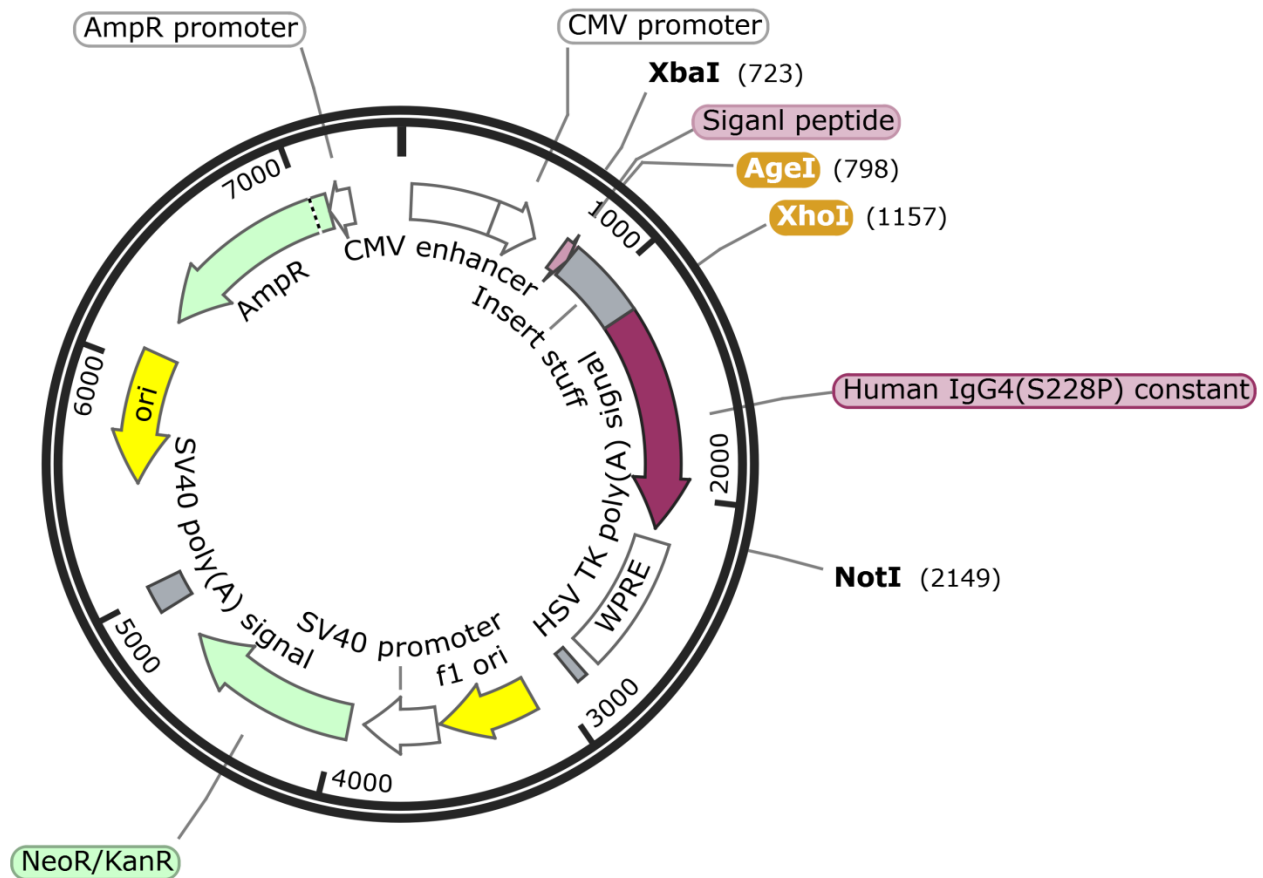
- Cloning your heavy chain variable region (VH) into **pFB-CHlg-hG4e1** vector to make heavy chain expression plasmid;
- Cloning your light chain variable region (VL) into pFB-CLlg-hk or pFB-CLlg-hl vector to make light chain expression plasmid
- Co-transfecting both heavy chain and light chain expression plasmids into your desired mammalian cell (such as CHO, HEK293) for Fc engineered antibody production.

## References



1. Lee et al., 2019. Publisher Correction: An engineered human Fc domain that behaves like a pH-toggle switch for ultra-long circulation persistence. *Nat. Commun.* 10, 5461.
2. Silva et al., 2015. The S228P mutation prevents In Vivo and In Vitro IgG4 Fab-arm exchange as demonstrated using a combination of novel quantitative immunoassays and physiological matrix preparation. *J. Biol. Chem.* 290, 5462–5469.

### Vector map



**Fusion BioLabs human IgG4(S228P) vector**  
7426 bp