Antibody Phage Display Library Construction Kit

pAPD-h-Fab: Human Fab phage display library construction kit

Catalog#: APD-02

Product Overview

Fusion BioLabs offers a range of library primer sets and phagemid vector combination for antibody phage display and peptide phage display construction. With customizable features and robust performance, our primer sets and phagemid vectors are designed for facilitating phage display library generation as fast as within one week.

pAPD-h-Fab are the phagemid vectors for construction of a fragment antigen-binding (Fab) library for **human** antibodies. Here are the key steps involved in constructing such a library:

- Amplify V genes from cDNA reverse transcript from RNA isolated from peripheral blood lymphocytes (PBL) or lymphoid tissue of non-immunized or immunized donors using PCR primers corresponding to known V_H, $V_κ$, and $V_λ$ gene sequences.
- Amplify CH1 fragment, Ck fragment and Cλ fragment using **pAPD-h-Fab** as template**.**
- Combine VH repertoires and CH1 fragment, Vk repertoires and Ck fragment, and $V_λ$ repertoires and $C_λ$ fragment to create V_H-C_{H1}, $V_κ$-$C_κ$ and $V_λ$-$C_λ$ constructs respectively, using a simple two-fragment PCR assembly procedure.
- Overlap assembly $V_κ$-$C_κ$ and V_H-C_{H1}, and $V_λ$-$C_λ$ and V_H-C_{H1} to make Fab repertoires respectively.
- Restriction enzyme digestion **pAPD-h-Fab** vector and Fab repertoires with SfiI.
- Ligation of digested and purified repertoires into digested and purified **pAPD-h-Fab** vector to make human Fab libraries.

Key Features

High expression efficiency: Engineered for efficient expression and display of antibody fragment Fab on the surface, allowing for easy screening and selection of target molecules.
Flexibility and versatility: One vector for both antibody library construction and downstream antibody fragment expression. No need subcloning into expression vector for downstream application.

Specifications

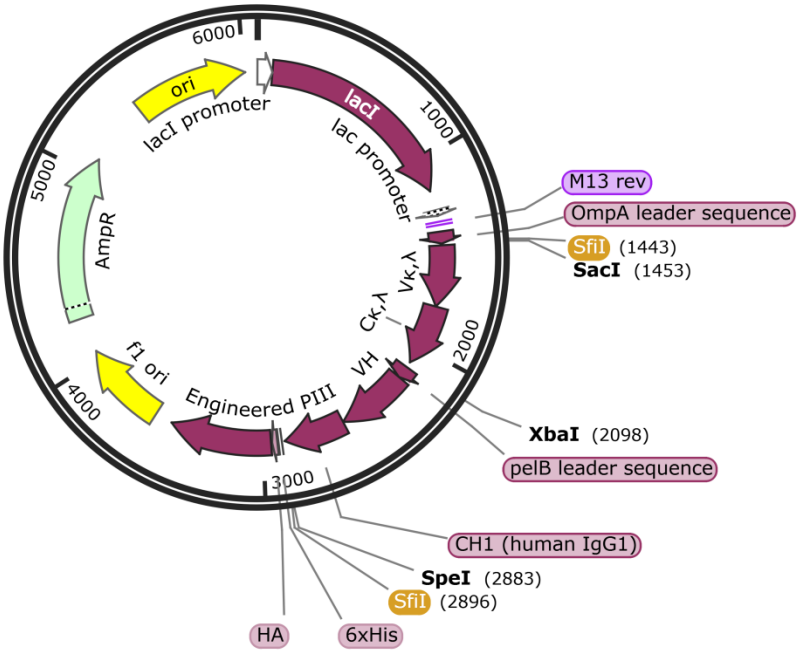
Antibiotic Resistance	Ampicillin (Amp^R)
Constitutive or Inducible System	Inducible for downstream expression
Delivery Type	Transformation
Product Type	Bacterial Expression Vector
Cloning Method	Restriction Enzyme SfiI

Contents & Storage

Primer Set		
Vial 1	200 µl, 10 µM	Primer mix (F+R) for V_H repertoires amplification
Vial 2	200 µl, 10 µM	Primer mix (F+R) for V_k repertoires amplification
Vial 3	200 µl, 10 µM	Primer mix (F+R) for V_λ repertoires amplification
Vial 4	200 µl, 10 µM	Primer mix (F+R) for CH1 fragment amplification
Vial 5	200 µl, 10 µM	Primer mix (F+R) for C_k fragment amplification
Vial 6	200 µl, 10 µM	Primer mix (F+R) for C_λ fragment amplification
Vial 7	200 µl, 10 µM	Assembly primers for V_H-C_{H1} repertoires construction
Vial 8	200 µl, 10 µM	Assembly primers for V_k-C_k repertoires construction
Vial 9	200 µl, 10 µM	Assembly primers for V_λ-C_λ repertoires construction
Vial 10	200 µl, 10 µM	Assembly primers for Fab repertoires construction
pAPD-h-Fab cloning vectors for human Fab library construction and templates for CH1, C_k and C_λ fragment amplification		
Vial 11	10.0 µg in Tris-EDTA buffer	

- Store at -20°C. Primer sets and vectors are guaranteed stable for 12 months when properly stored.

Vector for library Construction



Phagemid vector for human Fab library construction
6069 bp