Antibody Phage Display Library Construction Kit

pAPD-m-Fab: Mouse Fab phage display library construction kit

Catalog#: APD-03

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-m-Fab is the phagemid vector for construction of a fragment antigen-binding (Fab) library for **mouse** 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.
- Combine VH repertoires and CH1 fragment, and VL repertoires and CL fragment to create V_H-C_{H1} and $V_{\kappa,\lambda}$-$C_{\kappa,\lambda}$ constructs respectively, using a simple two-fragment PCR assembly procedure.
- Restriction enzyme digestion **pAPD-m-Fab** vector and $V_{\kappa,\lambda}$-$C_{\kappa,\lambda}$ fragments with SacI/XbaI, or **pAPD-m-Fab** vector and V_H-C_{H1} fragments with XhoI/SpeI.
- Ligation of digested and purified fragment into corresponding restriction enzymes digested and purified **pAPD-m-Fab** vector to make either **Light chain sub-librar**y or **heavy chain sub-library**.
- Restriction enzyme digestion **light chain sub-library** and V_H-C_{H1} fragment with XhoI/SpeI or **heavy chain sub-library** and $V_{\kappa,\lambda}$-$C_{\kappa,\lambda}$ fragment with SacI/XbaI, to make mouse 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

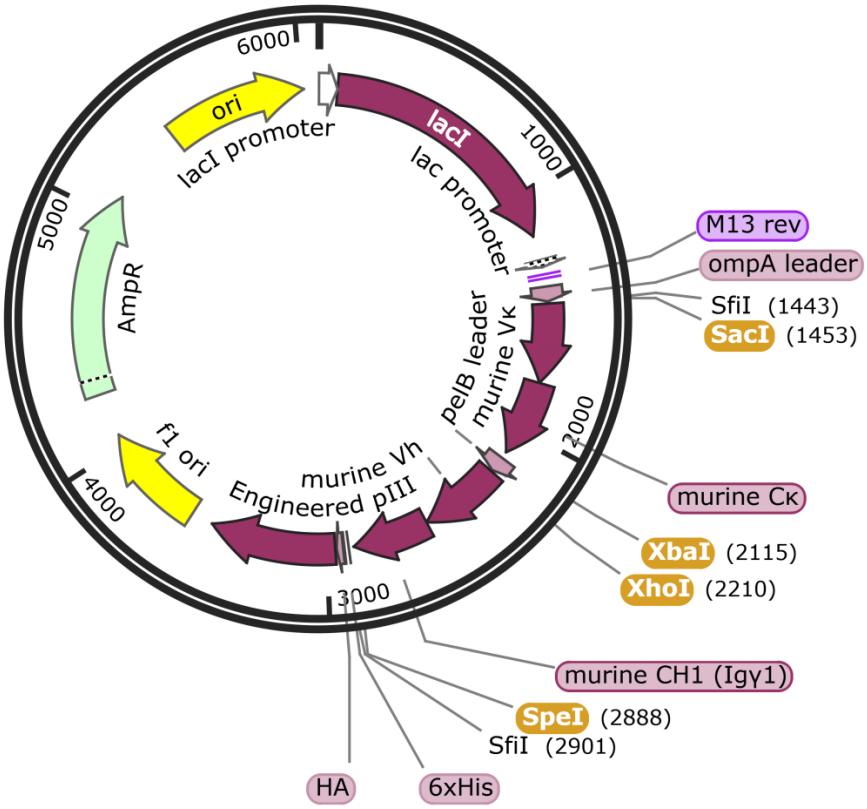
Antibiotic Resistance	Ampicillin (Amp^R)
Constitutive or Inducible System	Inducible for downstream expression
Delivery Type	Transformation
Product Type	Bacterial Expression Vector
Cloning Method	Restriction Enzymes for (5'-SacI and 3'-XbaI for $V_{\kappa,\lambda}$-$C_{\kappa,\lambda}$ fragments; 5'-XhoI and 3'-SpeI for VH-CH1 fragments)

Contents & Storage

Primer Set		
Vial 1	200 µl, 10 µM	Forward Primer mix (14 oligos) for $V_{k,\lambda}$-$C_{k,\lambda}$ fragment amplification
Vial 2	200 µl, 10 µM	Reverse Primer mix (2 oligos) for $V_{k,\lambda}$-$C_{k,\lambda}$ fragment amplification
Vial 3	200 µl, 10 µM	Forward Primer mix (11 oligos) for V_H-C_{H1} fragment amplification
Vial 4	200 µl, 10 µM	Reverse Primer mix (3 oligos) for V_H-C_{H1} fragment amplification
pAPD-m-Fab cloning vector for phage display mouse Fab library construction		
Vial 7	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 mouse Fab library construction
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