Fusion BioLabs

Antibody Phage Display Library Construction Kit

pAPD-rbt-scFv: Rabbit scFv phage display library construction kit

Catalog#: APD-06

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-rbt-scFv is the phagemid vector for construction of a single-chain variable fragment (scFv) library for **rabbit** 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 and VL repertoires to create the scFv construct using a simple two-fragment PCR assembly procedure.
- Restriction enzyme digestion with either SfiI or SacI/SpeI
- Ligation of digested and purified scFv fragment into corresponding restriction enzymes digested and purified **pAPD-rbt-scFv** vector.

Key Features

High expression efficiency: Engineered for efficient expression and display of antibody fragment scFv 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 (5'-SacI and 3'-SpeI)

Contents & Storage

Primer Set 1 for amplification of rabbit variable domain of heavy chain (V_H) and light chain (V_k and V_λ)		
Vial 1	200 µl, 10 µM	Forward Primer mix (2 oligos) for V_k and V_λ amplification
Vial 2	200 µl, 10 µM	Reverse Primer mix (3 oligos) for V_k and V_λ amplification

Vial 3	200 µl, 10 µM	Forward Primer mix (4 oligos) for V_H amplification
Vial 4	200 µl, 10 µM	Reverse Primer for V_H amplification
Primer Set 2 for cloning/assembly rabbit scFv (Format: $V_{k,\lambda}$-linker-V_H)		
Vial 5	100 µl, 10 µM	Forward primer for rabbit scFv cloning/assembly
Vial 6	100 µl, 10 µM	Reverse primer for rabbit scFv cloning/assembly
pAPD-m-scFv cloning vector for phage display rabbit scFv library construction		
Vial 7	10.0 µg pAPD-rbt-scFv plasmid 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