



# Antibody Phage Display Library Construction Kit

## pAPD-m-scFv: Mouse scFv phage display library construction kit

Catalog#: APD-05

### 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-scFv** is the phagemid vector for construction of a single-chain variable fragment (scFv) 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<sub>H</sub>, V<sub>K</sub>, and V<sub>L</sub> gene sequences.
- Combine V<sub>H</sub> and V<sub>L</sub> repertoires to create the scFv construct using a simple two-fragment PCR assembly procedure.
- Restriction enzyme digestion with either SfiI or SacI/Spel
- Ligation of digested and purified scFv fragment into corresponding restriction enzymes digested and purified **pAPD-m-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 <sup>R</sup> )
Constitutive or Inducible System	Inducible for downstream expression
Delivery Type	Transformation
Product Type	Bacterial Expression Vector
Cloning Method	Restriction Enzyme (5'-SacI and 3'-Spel)

### Contents & Storage

Primer Set 1 for amplification of mouse variable domain of heavy chain (VH) and light chain (Vk and VL)		
Vial 1	200 µl, 10 µM	Primer mix (F+R) for Vk repertoires amplification
Vial 2	200 µl, 10 µM	Primer mix (F+R) for VL repertoires amplification
Vial 3	200 µl, 10 µM	Primer mix (F+R) for VH repertoires amplification



Vial 4	200 $\mu$ l, 10 $\mu$ M	Assembly primers (F+R) for scFv repertoires construction
pAPD-m-scFv cloning vectors for mouse scFv library construction		
Vial 5	10.0 $\mu$ g in Tris-EDTA buffer	
Sequencing Primer Set		
Via 6	100 $\mu$ l, 10 $\mu$ M	Forward sequencing primer for mouse scFv insert (M13 Reverse)
Via 7	100 $\mu$ l, 10 $\mu$ M	Reverse sequencing primer for human scFv insert (pIII Reverse)

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

### Vector for library Construction

