APD-02 | Human Fab Phage Display Library Construction Kit

pAPD-h-Fab | Product Data Sheet

Product Overview

The Human Fab Phage Display Library Construction Kit (APD-02) provides PCR primer mixes and the pAPD-h-Fab phagemid vector for constructing human fragment antigen-binding (Fab) antibody libraries. Human V_H, Vκ, and Vλ repertoires are amplified from cDNA; CH1, Cκ, and Cλ fragments are amplified using the supplied vector as template. Overlap-extension PCR generates human κ-Fab and λ-Fab repertoires.

Library Construction Workflow

1. Amplify human V_H, Vκ, and Vλ repertoires from cDNA.

2. Amplify CH1, Cκ, and Cλ constant-region fragments using pAPD-h-Fab as template.

3. Assemble V_H–CH1, Vκ–Cκ, and Vλ–Cλ by overlap-extension PCR.

4. Combine heavy- and light-chain assemblies to generate κ-Fab and λ-Fab repertoires.

5. Digest Fab inserts and pAPD-h-Fab vector using Method A (SfiI) or Method B (SacI/SpeI), with the corresponding compatible insert ends.

6. Gel-purify, ligate, and transform to construct the Fab library.

Key Features

Human Fab display: Supports κ- and λ-Fab repertoire construction for phage display and screening.

Flexible cloning: Validated SfiI cloning (Method A) and confirmed SacI/SpeI alternative (Method B).

Versatile vector: Supports phage display library construction and downstream antibody-fragment expression.

Specifications

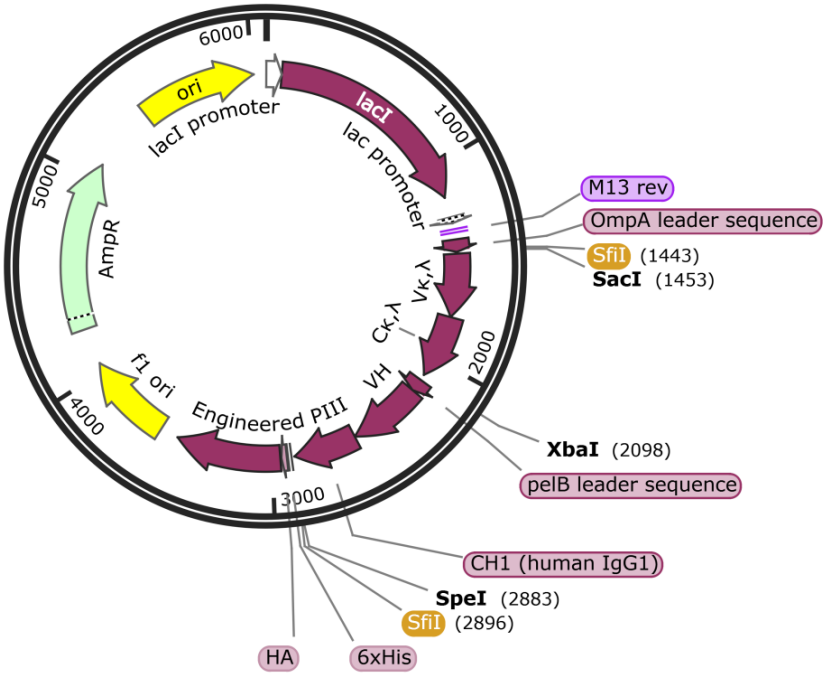
Specification	Value
Catalog number	APD-02
Vector	pAPD-h-Fab (6,069 bp)
Antibiotic resistance	Ampicillin (AmpR)
Expression	Inducible for downstream expression
Delivery	Transformation
Product type	Phage display / bacterial expression vector
Cloning method	Method A: SfiI; Method B: SacI/SpeI (confirmed alternative)

Contents & Storage

Vial	Quantity	Component
1	100 µL, 10 µM	V_H repertoire amplification primer mix
2	100 µL, 10 µM	Vκ repertoire amplification primer mix
3	100 µL, 10 µM	Vλ repertoire amplification primer mix
4	100 µL, 10 µM	CH1 fragment amplification primer mix
5	100 µL, 10 µM	Cκ fragment amplification primer mix
6	100 µL, 10 µM	Cλ fragment amplification primer mix
7	100 µL, 10 µM	V_H–CH1 assembly primers
8	100 µL, 10 µM	Vκ–Cκ assembly primers
9	100 µL, 10 µM	Vλ–Cλ assembly primers
10	100 µL, 10 µM	Fab repertoire assembly primers
11	100 µL, 10 µM	M13 Reverse primer for forward sequencing
12	100 µL, 10 µM	pIII Reverse primer for reverse sequencing
13	10.0 µg in TE buffer	pAPD-h-Fab cloning vector and constant-region PCR template

Storage: Store at −20°C. Primer sets and vector are guaranteed stable for 12 months when properly stored.

Vector for Library Construction



Phagemid vector for human Fab library construction
6069 bp

pAPD-h-Fab circular phagemid vector (6,069 bp). The map identifies SfiI (1443 and 2896), SacI (1453), and SpeI (2883) restriction sites.

Vector Usage: Clone human κ-Fab and λ-Fab repertoires for phage display library construction and selected Fab candidates for downstream expression.

Cloning options: Method A uses SfiI; Method B uses SacI/SpeI and requires appropriately designed insert ends.

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