Fusion BioLabs Ready-to-Use Z-domain Engineered Protein Scaffold Phage Display Library Kit

A High-diversity phage display library based on the engineered 3-helix bundle Z-domain.

SKU# AFF-01: Ready-to-Use Z-domain Engineered Protein Scaffold Phage Display Library Kit

Background: A **Z-domain engineered scaffold protein** is a small, highly stable, engineered protein derived from the "B domain" of *staphylococcal* protein A. It is a primary example of an "alternative scaffold"—a protein used as a framework to create new binding molecules that can perform similar functions to antibodies but with distinct physical advantages. This library can be screened to obtain **Z-domain engineered scaffold protein** molecules with high affinity and specificity to any given target molecule

Format: OmpA leader sequence-Z-domain Engineered Protein Scaffold

Library Diversity: 4.8×10^{11}

The diversity and in-frame of the library was checked by NGS.

Fusion BioLabs **Ready-to-Use Z-domain Engineered Protein Scaffold Phage Display Library** was constructed by saturation mutagenesis of the Z-domain with random amino acid residues at positions 9, 10, 11, 13, 14, 17, 18, 24, 25, 27, 28, 32 and 35.

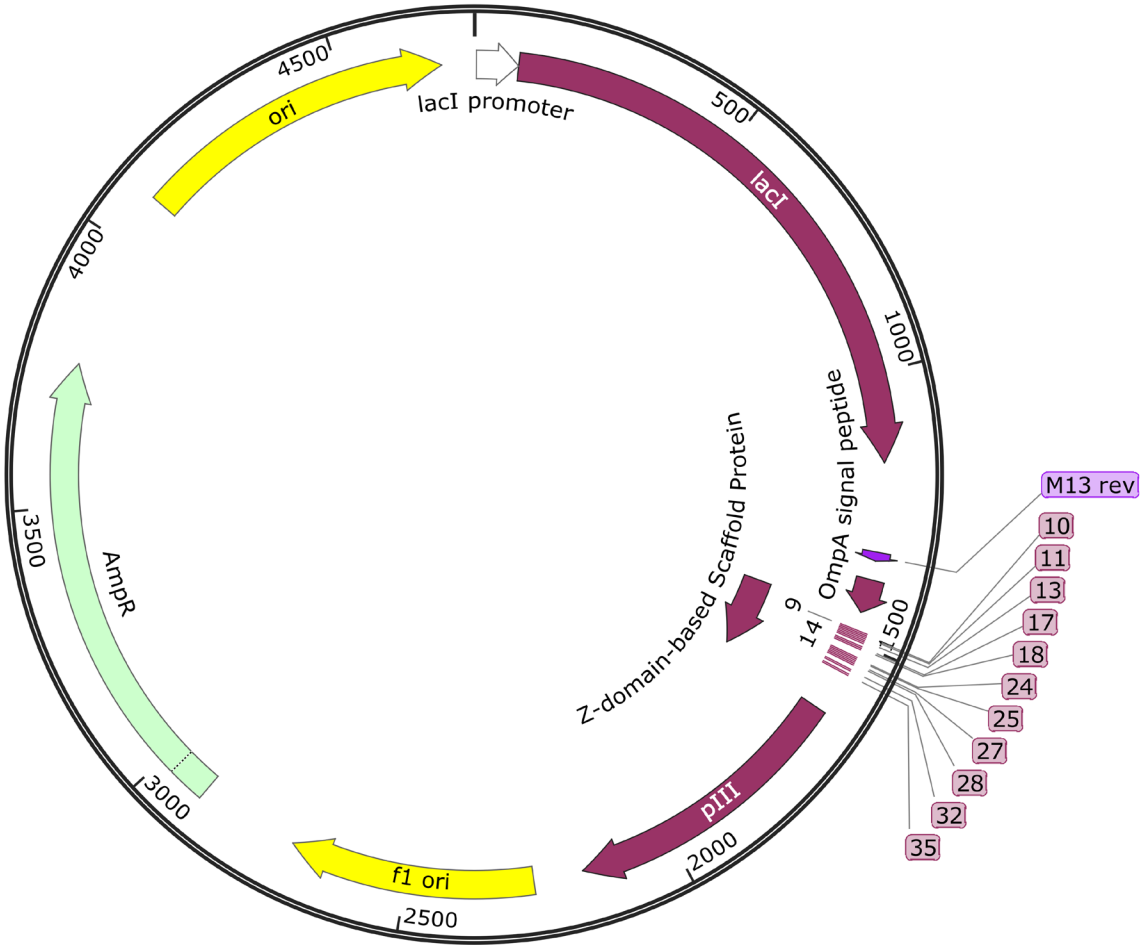
VDNKFNKEXXXAXXEIXXLPNLNXXQXXAFIXSLXDDPSQSANLLAEAKKLNDAQAPK

Kit contents
The following components are included in the Kit.

Component	Quantity	Composition
Z-domain-based scaffold protein phage display library (ready-to-panning; 9.2×10^{12} pfu/ml)	1.0 ml	1×PBS with 50% glycerol
M13KO7 Helper Phage (2×10^{12} pfu/ml)	0.5 ml	1×PBS with 50% glycerol
Chemically Competent TG1 E. coli	0.5 ml	2xYT with 25% Glycerol
M13 Reverse Primer (1.6 μM)	0.2 ml	1×TE Buffer

Reference:

Nord K, Gunneriusson E, Ringdahl J, Ståhl S, Uhlén M, Nygren PA. Binding proteins selected from combinatorial libraries of an alpha-helical bacterial receptor domain. *Nat Biotechnol.* 1997 Aug;15(8):772-777.



Fusion BioLabs Z-domain Engineered Protein Scaffold Phage display library vector map
4746 bp

Comments for Fusion BioLabs Library Vector
Z-domain-based Scaffold Protein Phage Display Library (one typical clone)

lac I promoter: bases 5-82
lac I ORF: bases 83-1165
M13 Reverse priming site: bases 1331-1347
OmpA leader sequence: bases 1383-1445
Z-domain Engineered Scaffold Protein: bases 1455-1628
Amber stop codon: bases 1635-1637
pIII engineered ORF: 1638-2171
f1 origin: bases 2264-2719
Ampicillin resistance ORF: bases 2906-3766
pUC origin: bases 4098-4686