

BIOBRICKS FOUNDATION PRESENTS

10K GENES PROJECT 2017-50

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<https://biobricks.org/10k-genes>

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Abstract

The 10K Genes Project is a BioBricks Foundation project aimed to synthesize and make freely available DNA in partnership with Twist Bioscience. Anyone around the world may request DNA to be synthesized through the 10K Genes Project as long as it is freely available to the scientific community. This document represents the week 50 of 2017 10K Genes Project order.

0 Introduction

This synthesis order is the second of our regularly scheduled 10k genes orders. The document itself includes some minor upgrades and slightly better examples for providing minimal but essential documentation of all requested genes (compared to the 2017-18 order).

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1 Gene Name: Collagenase

Gene ID: BBF.2017.50.1

Submitted by Scott Pownall on 2017.12.04. Contact at scott@opensciencenet.org.

Description

protease from *Vibrio alginolyticus* codon optimized for *E.coli*.

Motivation

NA

References

https://www.ncbi.nlm.nih.gov/protein/WP_017820899.1

2 Gene Name: Neutral Protease

Gene ID: BBF.2017.50.2

Submitted by Scott Pownall on 2017.12.04. Contact at scott@opensciencenet.org.

Description

protease from *Bacillus polymyxa* codon optimized for *E.coli*. [Note: Dispase is a registered trademark].

Motivation

NA

References

<https://www.ncbi.nlm.nih.gov/protein/BAA00734>

3 Gene Name: Cre Recombinase

Gene ID: BBF.2017.50.3

Submitted by Scott Pownall on 2017.12.04. Contact at scott@opensciencenet.org.

Description

Cre Recombinase codon optimized for E.coli.

Motivation

NA

References

<https://www.ncbi.nlm.nih.gov/protein/445989675>

4 Gene Name: Flp recombinase

Gene ID: BBF.2017.50.4

Submitted by Scott Pownall on 2017.12.04. Contact at scott@opensciencenet.org.

Description

Flp recombinase codon optimized for E.coli.

Motivation

NA

References

<https://www.ncbi.nlm.nih.gov/protein/AAT08996.1?report=fasta>

5 Gene Name: A0A085WQF1.1

Gene ID: BBF.2017.50.5

Submitted by Scott Pownall on 2017.12.04. Contact at scott@opensciencenet.org.

Description

Uncharacterized microbial Vault-like protein from *Hyalangium minutum* identified with a PFAM hidden markoff model. Most vaults are eukaryotic but there are a few that are microbial - some related to colicin

Motivation

NA

References

<http://pfam.xfam.org/family/PF01505>

6 Gene Name: pIP501

Gene ID: BBF.2017.50.6

Submitted by Keoni Gandall on 2017.12.04. Contact at koeng101@gmail.com.

Description

The conjugation cassette from pIP501. These conjugation genes - when expressed - should allow for DNA sequences with the pIP501 oriT to be transferred from Gram positive cells such as B.subtilis to other Gram positive and Gram negative cells like E.coli.

Motivation

To transfer DNA from B.subtilis spores directly into E.coli

References

<https://www.ncbi.nlm.nih.gov/pubmed/12826062> - <https://www.ncbi.nlm.nih.gov/pubmed/8825373>