

Resource Summary Report

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pEC3135 (pERASE)

RRID:Addgene_220306

Type: Plasmid

Proper Citation

RRID:Addgene_220306

Plasmid Information

URL: <http://www.addgene.org/220306>

Proper Citation: RRID:Addgene_220306

Bacterial Resistance: Erythromycin

Defining Citation: [PMID:38911550](#)

Vector Backbone Description: Backbone Size:4457; Vector Backbone:pERASE; Vector Types:Synthetic Biology; Bacterial Resistance:Erythromycin

Comments: This plasmid allows to obtain scarless gene deletions in *S. pyogenes* and potentially other Gram-positive bacteria. The multiple cloning site (EcoRI, XbaI, SpeI, PstI) contains a Plac_mrfp cassette, allowing for red-white screening of clones in *E. coli* (DH5a). When the Plac_mrfp cassette is replaced with the insert of interest, colonies will appear white on LB agar plates. See the associated publication for more information. Resource Information: The pUC origin for replication in *E. coli* was taken from pUC19 (Plasmid #50005). The erythromycin resistance cassette was taken from p7INT. The MCS containing the mrfp cassette was taken from pSpy0C4. The coding sequence for the counterselection marker pheS* was taken from the native pheS coding sequence found in *S. pyogenes* SF370. This sequence was adapted to avoid recombination events of the plasmid at the phis locus due to high DNA sequence homology. Two mutations were introduced into the adapted pheS sequence to facilitate incorporation of the toxic phenylalanine analogue PCPA (4-chlor-DL-phenylalanine) into proteins, leading to bacterial cell death. p7INT was a gift from Prof. Michael Federle (University of Illinois Chicago, USA). The p7INT plasmid integrates into the 3' end of the tmRNA locus in several *S. pyogenes* strains. It was originally described in: McShan, W.M., McLaughlin, R.E., Nordstrand, A. et al. Vectors containing streptococcal bacteriophage integrases for site-specific gene insertion. *Methods Cell Sci* 20, 51–57 (1998). <https://doi.org/10.1023/A:1009773309163> Please download the detailed plasmid map using the file linked below.

Plasmid Name: pEC3135 (pERASE)

Record Creation Time: 20240801T080703+0000

Record Last Update: 20260808T083114+0000

Ratings and Alerts

No rating or validation information has been found for pEC3135 (pERASE).

No alerts have been found for pEC3135 (pERASE).

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.