

Resource Summary Report

Generated by [kravitz2](#) on Aug 31, 2026

pDCAF3-IS5

RRID:Addgene_65220

Type: Plasmid

Proper Citation

RRID:Addgene_65220

Plasmid Information

URL: <http://www.addgene.org/65220>

Proper Citation: RRID:Addgene_65220

Insert Name: ndmA

Organism: Pseudomonas putida strain CBB5

Bacterial Resistance: Chloramphenicol and Kanamycin

Defining Citation: [PMID:23654268](#)

Vector Backbone Description: Backbone Marker:igem parts registry; Backbone Size:2070; Vector Backbone:pSB1C3; Vector Types:Bacterial Expression, Synthetic Biology; Bacterial Resistance:Chloramphenicol and Kanamycin

Comments: The sequence of this plasmid is updated from the GenBank entry for pDCAF3 (KC619530.1) to include an IS5 insertion that occurred in the promoter region of the caffeine demethylation genes during passaging of the strain and a base change in the sequence of the *gst9* gene. This plasmid still functions as described in the publication for pDCAF3. Vector constitutively expresses N-demethylase genes under the control of the BBa_J23100 promoter (http://parts.igem.org/Part:BBa_J23100). N-demethylases are only functional when grown at 30°C and require iron supplementation in minimal media. See: Summers, R. M., Louie, T. M., Yu, C.-L., Gakhar, L., Louie, K.C., and Subramanian, M. (2012) Novel, highly specific Ndemethylases enable bacteria to live on caffeine and related purine alkaloids. J. Bacteriol. 194, 2041-2049. For the quantification of caffeine (or other methylxanthine) content it is recommended to grow cells in M9 minimal medium supplemented with 2 g/L glucose and 2 g/L casein (M9GC). Please note that this plasmid may require a unique bacterial strain, so make sure to confirm that you can also obtain the appropriate growth strain. Please contact us at help@addgene.org or contact our distributors if you have any questions.

Plasmid Name: pDCAF3-IS5

Record Creation Time: 20220422T222412+0000

Record Last Update: 20260829T080849+0000

Ratings and Alerts

No rating or validation information has been found for pDCAF3-IS5.

No alerts have been found for pDCAF3-IS5.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 1 mentions in open access literature.

Listed below are recent publications. The full list is available at [kravitz2](#) .

Gutierrez AE, et al. (2019) Bioassay for Determining the Concentrations of Caffeine and Individual Methylxanthines in Complex Samples. Applied and environmental microbiology, 85(23).