

Resource Summary Report

Generated by [RRID](#) on Aug 19, 2026

pcDNA-mito-ZapCY1

RRID:Addgene_58996

Type: Plasmid

Proper Citation

RRID:Addgene_58996

Plasmid Information

URL: <http://www.addgene.org/58996>

Proper Citation: RRID:Addgene_58996

Insert Name: mito-ZapCY1 high affinity Zn(II) sensor

Organism: Synthetic

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:22850482](#)

Vector Backbone Description: Backbone Marker:Invitrogen; Backbone Size:5500; Vector Backbone:pcDNA3.1(+); Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: Genetically encoded, ratiometric, fluorescent biosensor. mito-ZapCY1 contains 4 tandem repeats of the first 29 aa of human cox subunit 8a (MSVLTPLLLRGLTGSARRLPVPRAKIHSL). HindIII restriction sites are at the 5' and 3' ends of the mitochondrial targeting sequence. Zn(II)-binding domain derived from the first 2 zinc fingers of Zap 1 from *Saccharomyces cerevisiae*. Contains truncated CFP and Citrine fluorescent proteins.

Plasmid Name: pcDNA-mito-ZapCY1

Record Creation Time: 20220422T222340+0000

Record Last Update: 20260815T081720+0000

Ratings and Alerts

No rating or validation information has been found for pcDNA-mito-ZapCY1.

No alerts have been found for pcDNA-mito-ZapCY1.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 2 mentions in open access literature.

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

Choate KA, et al. (2025) A genetically encoded fluorescent sensor enables sensitive and specific detection of IDH mutant associated oncometabolite D-2-hydroxyglutarate. BMC cancer, 25(1), 473.

Cho HM, et al. (2019) Drp1-Zip1 Interaction Regulates Mitochondrial Quality Surveillance System. Molecular cell, 73(2), 364.