

Resource Summary Report

Generated by [NIF](#) on Aug 21, 2026

pAC-CANTHipi

RRID:Addgene_53301

Type: Plasmid

Proper Citation

RRID:Addgene_53301

Plasmid Information

URL: <http://www.addgene.org/53301>

Proper Citation: RRID:Addgene_53301

Insert Name: crtO

Organism: Haematococcus pluvialis

Bacterial Resistance: Chloramphenicol

Defining Citation: [PMID:17634749](#)

Vector Backbone Description: Backbone Marker:Francis X. Cunningham, Jr.; Backbone Size:9259; Vector Backbone:pAC-BETAipi; Vector Types:low copy number bacterial cloning vector; Bacterial Resistance:Chloramphenicol

Comments: For better yield of low copy number pAC-based plasmids, grow liquid cultures on a platform shaker at ca. 30 degrees Celsius. When cultures reach early stationary phase, dilute 2-fold with growth medium, add spectinomycin (150 mg/liter), and "amplify" for several hours before harvest. For plasmid selection and maintenance in E. coli, use chloramphenicol at 30 mg/liter.

Plasmid Name: pAC-CANTHipi

Record Creation Time: 20220422T222312+0000

Record Last Update: 20260815T081629+0000

Ratings and Alerts

No rating or validation information has been found for pAC-CANTHipi.

No alerts have been found for pAC-CANTHipi.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 9 mentions in open access literature.

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

Tu W, et al. (2024) Engineering bionanoreactor in bacteria for efficient hydrogen production. *Proceedings of the National Academy of Sciences of the United States of America*, 121(29), e2404958121.

Chukhutsina VU, et al. (2024) The Carbonyl Group in ?2 of the Carotenoid Tunes the Photocycle Kinetics in Orange Carotenoid Protein. *Journal of molecular biology*, 436(5), 168463.

Rose JB, et al. (2023) Photoactivation of the orange carotenoid protein requires two light-driven reactions mediated by a metastable monomeric intermediate. *Physical chemistry chemical physics : PCCP*, 25(48), 33000.

Domínguez-Martín MA, et al. (2022) Structures of a phycobilisome in light-harvesting and photoprotected states. *Nature*, 609(7928), 835.

Chukhutsina VU, et al. (2022) Light activation of Orange Carotenoid Protein reveals bicycle-pedal single-bond isomerization. *Nature communications*, 13(1), 6420.

Kuznetsova V, et al. (2020) Comparative ultrafast spectroscopy and structural analysis of OCP1 and OCP2 from *Tolypothrix*. *Biochimica et biophysica acta. Bioenergetics*, 1861(2), 148120.

Gupta S, et al. (2019) X-ray radiolytic labeling reveals the molecular basis of orange carotenoid protein photoprotection and its interactions with fluorescence recovery protein. *The Journal of biological chemistry*, 294(22), 8848.

Gurchiek JK, et al. (2018) Fluorescence and Excited-State Conformational Dynamics of the Orange Carotenoid Protein. *The journal of physical chemistry. B*, 122(6), 1792.

Lechno-Yossef S, et al. (2017) Synthetic OCP heterodimers are photoactive and recapitulate the fusion of two primitive carotenoproteins in the evolution of cyanobacterial photoprotection. *The Plant journal : for cell and molecular biology*, 91(4), 646.