Resource Summary Report

Generated by RRID on Aug 23, 2026

pCS2+MT-hToca-1-wt

RRID:Addgene_33030
Type: Plasmid

Proper Citation

RRID:Addgene_33030

Plasmid Information

URL: http://www.addgene.org/33030

Proper Citation: RRID:Addgene_33030

Insert Name: Toca-1

Organism: Homo sapiens

Bacterial Resistance: Ampicillin

Defining Citation: PMID:15260990

Vector Backbone Description: Backbone Size:4350; Vector Backbone:pCS2+MT; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: Molecular cloning of Toca-1 was dif?cult, because the cDNA encoding human Toca-1 is lethal to E. coli. The toxicity problem was not resolved by using vectors with low copy numbers or with minimal transcriptional activity, suggesting that the source of toxicity was not the translated protein product but rather the DNA sequence itself. The toxic region of the Toca-1 cDNA was localized to codon 127. The Xenopus tropicalis homolog of Toca-1 is completely nontoxic when cloned using E. coli and is identical in amino acid sequence to human Toca-1 between amino acids 124 and 127, but these amino acids are encoded by different codons. Replacing codons 126 and 127 in the human Toca-1 with the X. Tropicalis sequence (which constitute silent mutations) completely ameliorated the toxicity problem and allowed us to propagate the human Toca-1 clone in E. coli without dif?culty.

Plasmid Name: pCS2+MT-hToca-1-wt

Record Creation Time: 20220422T222143+0000

Record Last Update: 20260815T081346+0000

Ratings and Alerts

No rating or validation information has been found for pCS2+MT-hToca-1-wt.

No alerts have been found for pCS2+MT-hToca-1-wt.

Data and Source Information

Source: Addgene

Usage and Citation Metrics

We found 5 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID .

Maekawa Y, et al. (2026) Bleb expansion requires transient membrane invaginations that sequester curvature-preferring proteins. Proceedings of the National Academy of Sciences of the United States of America, 123(21), e2534871123.

Hanada Y, et al. (2025) Biomechanical control of vascular morphogenesis by the surrounding stiffness. Nature communications, 16(1), 6788.

McCullough A, et al. (2025) Chlamydia trachomatis TmeA promotes pedestal-like structure formation through N-WASP and TOCA-1 interactions. mSphere, 10(5), e0010125.

Yuge S, et al. (2022) Mechanical loading of intraluminal pressure mediates wound angiogenesis by regulating the TOCA family of F-BAR proteins. Nature communications, 13(1), 2594.

Van Itallie CM, et al. (2015) A complex of ZO-1 and the BAR-domain protein TOCA-1 regulates actin assembly at the tight junction. Molecular biology of the cell, 26(15), 2769.