

Resource Summary Report

Generated by [RRID](#) on Aug 17, 2026

pCS2+hSpCas9

RRID:Addgene_51815

Type: Plasmid

Proper Citation

RRID:Addgene_51815

Plasmid Information

URL: <http://www.addgene.org/51815>

Proper Citation: RRID:Addgene_51815

Insert Name: humanized S.pyogenes Cas9

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:24728957](#)

Vector Backbone Description: Backbone Size:4071; Vector Backbone:pCS2; Vector Types:Mammalian Expression, CRISPR, medaka, zebrafish; Bacterial Resistance:Ampicillin

Comments: This plasmid is modified from pX330-U6-Chimeric BB-CBh-hSpCas9 originated from Feng Zhang Lab.

Plasmid Name: pCS2+hSpCas9

Record Creation Time: 20220422T222304+0000

Record Last Update: 20260815T081617+0000

Ratings and Alerts

No rating or validation information has been found for pCS2+hSpCas9.

No alerts have been found for pCS2+hSpCas9.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 29 mentions in open access literature.

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

Kiyomitsu A, et al. (2024) Ran-GTP assembles a specialized spindle structure for accurate chromosome segregation in medaka early embryos. *Nature communications*, 15(1), 981.

Altbürger C, et al. (2023) CRISPR/Cas9-based QF2 knock-in at the tyrosine hydroxylase (th) locus reveals novel th-expressing neuron populations in the zebrafish mid- and hindbrain. *Frontiers in neuroanatomy*, 17, 1196868.

Fu B, et al. (2023) Critical Role of the Cortical Alveolus Protease Alveolin in Chorion Hardening In Vivo at Medaka Fertilization. *Biomolecules*, 13(1).

Fleming T, et al. (2022) Prostaglandin E2 receptor Ptger4b regulates female-specific peptidergic neurons and female sexual receptivity in medaka. *Communications biology*, 5(1), 1215.

Ertunc N, et al. (2022) Sulfation of sialic acid is ubiquitous and essential for vertebrate development. *Scientific reports*, 12(1), 12496.

Shirai M, et al. (2022) Methylome data derived from maternal-zygotic DNA methyltransferase 3aa-/- zebrafish. *Data in brief*, 44, 108514.

Ogawa Y, et al. (2021) Foxq2 determines blue cone identity in zebrafish. *Science advances*, 7(41), eabi9784.

Nakanishi E, et al. (2021) Impact of Gba2 on neuronopathic Gaucher's disease and α -synuclein accumulation in medaka (*Oryzias latipes*). *Molecular brain*, 14(1), 80.

Watanabe Y, et al. (2020) Gene disruption of medaka (*Oryzias latipes*) orthologue for mammalian tissue-type transglutaminase (TG2) causes movement retardation. *Journal of biochemistry*, 168(3), 213.

Asakawa K, et al. (2020) Optogenetic modulation of TDP-43 oligomerization accelerates ALS-related pathologies in the spinal motor neurons. *Nature communications*, 11(1), 1004.

Kikuchi M, et al. (2020) foxl3, a sexual switch in germ cells, initiates two independent molecular pathways for commitment to oogenesis in medaka. *Proceedings of the National Academy of Sciences of the United States of America*, 117(22), 12174.

Lee YH, et al. (2020) Chondroitin sulfate proteoglycan 4 regulates zebrafish body axis organization via Wnt/planar cell polarity pathway. *PloS one*, 15(4), e0230943.

Yamashita J, et al. (2020) Male-predominant galanin mediates androgen-dependent aggressive chases in medaka. *eLife*, 9.

Kato-Unoki Y, et al. (2020) Production of a tributyltin-binding protein 2 knockout mutant strain of Japanese medaka, *Oryzias latipes*. *Marine pollution bulletin*, 160, 111601.

Shibata Y, et al. (2019) Functional Studies of Transcriptional Cofactors via Microinjection-Mediated Gene Editing in *Xenopus*. *Methods in molecular biology* (Clifton, N.J.), 1874, 507.

Ogiwara K, et al. (2019) Nuclear Progesterone Receptor Phosphorylation by Cdk9 Is Required for the Expression of Mmp15, a Protease Indispensable for Ovulation in Medaka. *Cells*, 8(3).

Asakawa K, et al. (2018) Protocadherin-Mediated Cell Repulsion Controls the Central Topography and Efferent Projections of the Abducens Nucleus. *Cell reports*, 24(6), 1562.

Kato-Unoki Y, et al. (2018) Genome editing of pufferfish saxitoxin- and tetrodotoxin-binding protein type 2 in *Takifugu rubripes*. *Toxicon : official journal of the International Society on Toxinology*, 153, 58.

Shiraki T, et al. (2018) A tRNA-based multiplex sgRNA expression system in zebrafish and its application to generation of transgenic albino fish. *Scientific reports*, 8(1), 13366.

Watanabe Y, et al. (2018) Higher susceptibility to osmolality of the medaka (*Oryzias latipes*) mutants in orthologue genes of mammalian skin transglutaminases. *Bioscience, biotechnology, and biochemistry*, 82(7), 1165.