

Resource Summary Report

Generated by [RRID](#) on Aug 18, 2026

2C::tdTomato Reporter

RRID:Addgene_40281

Type: Plasmid

Proper Citation

RRID:Addgene_40281

Plasmid Information

URL: <http://www.addgene.org/40281>

Proper Citation: RRID:Addgene_40281

Insert Name: 2C Promoter (2-cell stage promoter)

Organism: Mus musculus

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:22722858](#)

Vector Backbone Description: Backbone Marker:Invitrogen/Life Tech; Backbone Size:6400; Vector Backbone:pcDNA Hygro; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: The CMV promoter from the parent pcDNA plasmid was removed with MluI and HindIII, leaving approx. 6400kb backbone. The 2C promoter was put in its place (730bp) using the same sites. Hence, the full plasmid is 7129bp. The promoter is active shortly after fertilization of mouse embryos to about the 8-cell stage. It is also on in a subset of MESCs & miPSCs.

Plasmid Name: 2C::tdTomato Reporter

Record Creation Time: 20220422T222209+0000

Record Last Update: 20260815T081435+0000

Ratings and Alerts

No rating or validation information has been found for 2C::tdTomato Reporter.

No alerts have been found for 2C::tdTomato Reporter.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 15 mentions in open access literature.

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

Guo Y, et al. (2024) Obox4 promotes zygotic genome activation upon loss of Dux. eLife, 13.

Sun X, et al. (2023) POGZ suppresses 2C transcriptional program and retrotransposable elements. Cell reports, 42(8), 112867.

González-Martínez J, et al. (2022) Expanding the Differentiation Potential of Already-Established Pluripotent Stem Cells. Methods in molecular biology (Clifton, N.J.), 2454, 95.

Barry RM, et al. (2022) Rap1 regulates TIP60 function during fate transition between two-cell-like and pluripotent states. Genes & development, 36(5-6), 313.

Zhang W, et al. (2022) Rif1 and Hmgn3 regulate the conversion of murine trophoblast stem cells. Cell reports, 38(13), 110570.

Xu M, et al. (2021) Rapid generation of murine haploid-induced trophoblast stem cells via a Tet-on system. STAR protocols, 2(4), 100881.

Huang Z, et al. (2021) The chromosomal protein SMCHD1 regulates DNA methylation and the 2c-like state of embryonic stem cells by antagonizing TET proteins. Science advances, 7(4).

Huang X, et al. (2021) Functional study of distinct domains of Dux in improving mouse SCNT embryonic development†. Biology of reproduction, 105(5), 1089.

Yang F, et al. (2020) DUX-miR-344-ZMYM2-Mediated Activation of MERVL LTRs Induces a Totipotent 2C-like State. Cell stem cell, 26(2), 234.

Schüle KM, et al. (2019) GADD45 promotes locus-specific DNA demethylation and 2C cycling in embryonic stem cells. Genes & development, 33(13-14), 782.

Zhang H, et al. (2019) MLL1 Inhibition and Vitamin D Signaling Cooperate to Facilitate the Expanded Pluripotency State. Cell reports, 29(9), 2659.

Yang L, et al. (2018) KDM6A and KDM6B play contrasting roles in nuclear transfer embryos revealed by MERVL reporter system. EMBO reports, 19(12).

Huang Y, et al. (2017) Stella modulates transcriptional and endogenous retrovirus programs during maternal-to-zygotic transition. eLife, 6.

Whiddon JL, et al. (2017) Conservation and innovation in the DUX4-family gene network. *Nature genetics*, 49(6), 935.

Eckersley-Maslin MA, et al. (2016) MERVL/Zscan4 Network Activation Results in Transient Genome-wide DNA Demethylation of mESCs. *Cell reports*, 17(1), 179.