

# Resource Summary Report

Generated by [NIF](#) on Aug 2, 2026

## pGfa2-nLac

RRID:Addgene\_53126

Type: Plasmid

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### Proper Citation

RRID:Addgene\_53126

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### Plasmid Information

**URL:** <http://www.addgene.org/53126>

**Proper Citation:** RRID:Addgene\_53126

**Insert Name:** Gfa2

**Organism:** Homo sapiens

**Bacterial Resistance:** Ampicillin

**Defining Citation:** [PMID:8120611](#)

**Vector Backbone Description:** Vector Backbone:pUC18; Vector Types:Mammalian Expression, Mouse Targeting; Bacterial Resistance:Ampicillin

**Comments:** The plasmid is a pUC18 vector containing the human GFAP sequences from -2163 to +47 (the human gfa2 segment), with the initiating ATG mutated to TTG, placed in front of the nuclear targeted E. coli lacZ gene, which in turn is followed by a fragment of the mouse protamine-1 gene. The latter supplies an intron, stabilizing 3' UTR, and a polyadenylation signal. If cloning a cDNA, it is advisable to retain the mP-1 segment. The lacZ gene can be excised by digestion with BamHI, and replaced with your gene of interest. If cloning a genomic sequence that includes an intron and polyadenylation site (this may compromise astrocyte specificity--see Su et al. 2004), the mP-1 region can also be excised, or alternatively, a number of sites flank the gfa2 segment allowing its isolation. Restriction sites that may be useful are as follows: EcoRI: flanks the gfa2, lacZ, and mP-1 segments Bgl II: 5' flank of gfa2 & 3' flank of mP-1 Bam HI: flanks the lacZ gene Sal I: cuts uniquely between the gfa2 promoter and the LacZ gene Sph I and Hind III: cut uniquely just 3' of the mP-1 segment Although the GFAP promoter appears to be the best choice for targeting transgene expression to astrocytes in mice, please be aware that neuronal expression has also occasionally been observed (Su et al. 2004).

**Plasmid Name:** pGfa2-nLac

**Relevant Mutation:** contains -2163 to +47 (the human gfa2 segment), with the initiating ATG mutated to TTG

**Record Creation Time:** 20220422T222311+0000

**Record Last Update:** 20260801T081441+0000

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## Ratings and Alerts

No rating or validation information has been found for pGfa2-nLac.

No alerts have been found for pGfa2-nLac.

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## Data and Source Information

**Source:** [Addgene](#)

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## Usage and Citation Metrics

We found 5 mentions in open access literature.

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

Men Y, et al. (2020) Astroglial FMRP deficiency cell-autonomously up-regulates miR-128 and disrupts developmental astroglial mGluR5 signaling. Proceedings of the National Academy of Sciences of the United States of America, 117(40), 25092.

Men Y, et al. (2019) Exosome reporter mice reveal the involvement of exosomes in mediating neuron to astroglia communication in the CNS. Nature communications, 10(1), 4136.

Brenner M, et al. (2019) AP-1 and the injury response of the GFAP gene. Journal of neuroscience research, 97(2), 149.

O'Connor T, et al. (2019) Age-Related Gliosis Promotes Central Nervous System Lymphoma through CCL19-Mediated Tumor Cell Retention. Cancer cell, 36(3), 250.

Joshi CR, et al. (2018) Reaching for the Stars in the Brain: Polymer-Mediated Gene Delivery to Human Astrocytes. Molecular therapy. Nucleic acids, 12, 645.