

Resource Summary Report

Generated by [dkNET](#) on Sep 5, 2026

KG#121

RRID:Addgene_110879

Type: Plasmid

Proper Citation

RRID:Addgene_110879

Plasmid Information

URL: <http://www.addgene.org/110879>

Proper Citation: RRID:Addgene_110879

Insert Name: rab-3 promoter

Organism: *Caenorhabditis elegans*

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:16272411](#)

Vector Backbone Description: Backbone Size:2617; Vector Backbone:pUC; Vector Types:Bacterial Expression; Bacterial Resistance:Ampicillin

Comments: Used Pfu Ultra polymerase and primers engineered with restriction sites to amplify the 3780 bp unc-31 cDNA coding region from KG#104 and cloned into Nhe I/ Age I cut KG#59 (rab-3:: expression vector). Transformed into XL1-Blue electrocompetent cells. Miniprepmed 6 clones to find those with correct size insert and vector, then submitted 2 clones for sequence. Chose one clone that has correct sequence and made glycerol stock. Features of the expression construct: This expression construct has a promoter (rab-3) that will drive strong and specific expression of unc-31 cDNA in the entire nervous system of juvenile and adult animals. Other features of the expression vector include a "decoy" 5' to the promoter to reduce non-specific expression in the gut (see Fire Lab 1995 Kit documentation for description), the unc-54 3' end including the poly A addition signal, and 3 introns (1 in 5' UTR, 1 just upstream of the unc-54 3' end, and 1 inserted in the unc-54 3' end). These introns help provide more uniform and robust expression, especially if you are expressing a cDNA with no introns (as we are) as opposed to a gene with introns. The sequence AAAA is engineered just after the 5' restriction site and just before the initiator ATG to provide a consensus translation start site. The sequence AT follows the stop codon and immediately precedes the 3' restriction site to provide a consensus stop translation signal. The vector provides the unc-54 3' UTR and control region. Note: this unc-31 cDNA from lacks the first 408 bp of the full-length unc-31 cDNA, but confers full

rescue activity for locomotion.

Plasmid Name: KG#121

Record Creation Time: 20220422T221539+0000

Record Last Update: 20260905T074416+0000

Ratings and Alerts

No rating or validation information has been found for KG#121.

No alerts have been found for KG#121.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 3 mentions in open access literature.

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

Rennich BJ, et al. (2025) The insulin-like peptide INS-27 mediates a muscle-to-neuron feedback signal coupling muscle activity with AMPA receptor trafficking. PLoS genetics, 21(7), e1011786.

Shao J, et al. (2025) Loss of neuropeptidergic regulation of cholinergic transmission induces homeostatic compensation in muscle cells to preserve synaptic strength. PLoS biology, 23(5), e3003171.

Zhang MG, et al. (2024) Sensory integration of food and population density during the diapause exit decision involves insulin-like signaling in *Caenorhabditis elegans*. Proceedings of the National Academy of Sciences of the United States of America, 121(40), e2405391121.