Resource Summary Report

Generated by RRID on Aug 25, 2026

eGFP-pro?1(I)

RRID:Addgene_119843
Type: Plasmid

Proper Citation

RRID:Addgene_119843

Plasmid Information

URL: http://www.addgene.org/119843

Proper Citation: RRID:Addgene_119843

Insert Name: Type I procollagen ?1 chain

Organism: Mus musculus

Bacterial Resistance: Ampicillin

Defining Citation: PMID:30287488

Vector Backbone Description: Backbone Size:5300; Vector Backbone:pcDNA3.1; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Comments: These mouse type I procollagen plasmids were designed for immortalized and primary murine osteoblasts and fibroblasts. Their expression in other cells might cause significant disruption of assembly, folding and trafficking of type I procollagen, resulting in artifacts. Even in osteoblasts and fibroblasts a fraction of transfected chains, particularly pro?2, might be trafficked/degraded as monomers instead of being integrated into procollagen heterotrimers. In our experience, the best evidence of normal behavior of the transfected chains is the appearance of fluorescent extracellular collagen fibers ~ 12 h after transfection. Fluorescent molecules should be incorporated into fibers even when the transfected chains contain the N-propeptide cleavage site, because the cleavage is highly conformation sensitive and always incomplete. We recommend following these guidelines when using the plasmids 1) Only mouse cells that have high expression of endogenous type I procollagen are suitable for studies of physiologically-relevant processes with these constructs. 2) At least 100 ?M ascorbic acid at and after transfection is required to ensure proper procollagen folding (for some cells, preincubation with ascorbic acid before transfection might be needed). 3) Optimization of transfection efficiency is needed for all cell types. 4) Experiments beyond 24h after transfection are not recommended, to avoid excessive accumulation of aggregates and cell malfunction caused by increased procollagen synthesis. 5) Lack of extracellular fluorescent fibers 12-24 h after transfection

indicates improper procollagen synthesis/trafficking or cellular malfunction. 6) Excessive expression of transfected chains might cause rapid accumulation of large procollagen aggregates in the ER, resulting in cellular malfunction and death. Contact information: Shakib Omari (shakib.omari@nih.gov), Sergey Leikin (leikins@mail.nih.gov).

Plasmid Name: eGFP-pro?1(I)

Relevant Mutation: Col1a1 exons 2-3 replaced by fluorescent tag

Record Creation Time: 20220422T221626+0000

Record Last Update: 20260815T080317+0000

Ratings and Alerts

No rating or validation information has been found for eGFP-pro?1(I).

No alerts have been found for eGFP-pro?1(I).

Data and Source Information

Source: Addgene

Usage and Citation Metrics

We have not found any literature mentions for this resource.