

Resource Summary Report

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

pcDNA3-SypHluorin 4x (S4x)

RRID:Addgene_37005

Type: Plasmid

Proper Citation

RRID:Addgene_37005

Plasmid Information

URL: <http://www.addgene.org/37005>

Proper Citation: RRID:Addgene_37005

Insert Name: SypHluorin 4x

Organism: Rattus norvegicus

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:19217377](#)

Vector Backbone Description: Backbone Marker:Invitrogen; Vector Backbone:pcDNA3; Vector Types:Mammalian Expression; Bacterial Resistance:Ampicillin

Plasmid Name: pcDNA3-SypHluorin 4x (S4x)

Relevant Mutation: Four copies of pHluorin inserted at site 184-185

Record Creation Time: 20220422T222157+0000

Record Last Update: 20260815T081412+0000

Ratings and Alerts

No rating or validation information has been found for pcDNA3-SypHluorin 4x (S4x).

No alerts have been found for pcDNA3-SypHluorin 4x (S4x).

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 4 mentions in open access literature.

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

Seidenthal M, et al. (2023) pOpsicle: An all-optical reporter system for synaptic vesicle recycling combining pH-sensitive fluorescent proteins with optogenetic manipulation of neuronal activity. *Frontiers in cellular neuroscience*, 17, 1120651.

Lam M, et al. (2022) CNS myelination requires VAMP2/3-mediated membrane expansion in oligodendrocytes. *Nature communications*, 13(1), 5583.

Almeida RG, et al. (2021) Myelination induces axonal hotspots of synaptic vesicle fusion that promote sheath growth. *Current biology : CB*, 31(17), 3743.

Hammond JW, et al. (2015) Platelet Activating Factor Enhances Synaptic Vesicle Exocytosis Via PKC, Elevated Intracellular Calcium, and Modulation of Synapsin 1 Dynamics and Phosphorylation. *Frontiers in cellular neuroscience*, 9, 505.