

Resource Summary Report

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

pET22b_PstS_1

RRID:Addgene_78198

Type: Plasmid

Proper Citation

RRID:Addgene_78198

Plasmid Information

URL: <http://www.addgene.org/78198>

Proper Citation: RRID:Addgene_78198

Insert Name: pstS (A197C)

Organism: E. coli

Bacterial Resistance: Ampicillin

Defining Citation: [PMID:26199994](#)

Vector Backbone Description: Vector Backbone:pET22b; Vector Types:Bacterial Expression; Bacterial Resistance:Ampicillin

Comments: Please note- The numbering system used was for the mature natural wild-type PstS protein. The plasmid produces an extra N-terminal methionine so all mutations will be off by 1nt (e.g., A197C =A198C) The expressed protein is a single-cysteine variant of E. coli phosphate binding protein. The gene encodes the mature protein without the N-terminal signal peptide, but with an N-terminal methionine for subsequent labeling at the cysteine with one MDCC (N-[2-(1-maleimidyl)ethyl]-7-diethylaminocoumarin-3-carboxamide) per molecule. This adduct is then used as a fluorescent phosphate biosensor, having ~7-fold fluorescence intensity increase on binding inorganic phosphate with very high affinity.

Plasmid Name: pET22b_PstS_1

Relevant Mutation: A197C (please see depositors comment below)

Record Creation Time: 20220422T222515+0000

Record Last Update: 20260815T082022+0000

Ratings and Alerts

No rating or validation information has been found for pET22b_PstS_1.

No alerts have been found for pET22b_PstS_1.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 6 mentions in open access literature.

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

Elmaleh B, et al. (2026) The ALS-associated E425K mutation uncouples DNAJC7 from the Hsp70 chaperone cycle. The FEBS journal, 293(12), 3485.

Zoltsman G, et al. (2024) A unique chaperoning mechanism in class A JDPs recognizes and stabilizes mutant p53. Molecular cell.

Abayev-Avraham M, et al. (2023) DNAJB6 mutants display toxic gain of function through unregulated interaction with Hsp70 chaperones. Nature communications, 14(1), 7066.

Hussein FB, et al. (2022) Fixed-bed column study of phosphate adsorption using immobilized phosphate-binding protein. Chemosphere, 295, 133908.

Venkiteshwaran K, et al. (2021) Immobilized phosphate-binding protein can effectively discriminate against arsenate during phosphate adsorption and recovery. Water environment research : a research publication of the Water Environment Federation, 93(8), 1173.

Venkiteshwaran K, et al. (2018) Phosphate removal and recovery using immobilized phosphate binding proteins. Water research X, 1, 100003.