

Resource Summary Report

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

C321.?A.exp

RRID:Addgene_49018

Type: Plasmid

Proper Citation

RRID:Addgene_49018

Plasmid Information

URL: <http://www.addgene.org/49018>

Proper Citation: RRID:Addgene_49018

Insert Name: Recoded E. coli with all UAG codons and RF1 removed (UAG termination abolished); decreased mutation rate; 37C growth tolerated

Organism: E. coli

Bacterial Resistance: Bleocin (Zeocin)

Defining Citation: [PMID:24136966](#)

Vector Backbone Description: Vector Backbone:E. coli genome; Vector Types:Bacterial Expression; Bacterial Resistance:Bleocin (Zeocin)

Comments: E. coli MG1655 Delta(ybhB-bioAB)::zeoR Delta prfA; all 321 UAG codons changed to UAA This strain is mutS+, which causes a normal spontaneous mutation frequency of ~1E-10. This strain is auxotrophic for d-biotin. The genome sequence of a similar strain (C321.deltaA) was deposited at NCBI (accession # CP006698.1).

Plasmid Name: C321.?A.exp

Relevant Mutation: See genbank file

Record Creation Time: 20220422T222252+0000

Record Last Update: 20260815T081555+0000

Ratings and Alerts

No rating or validation information has been found for C321.?A.exp.

No alerts have been found for C321.?A.exp.

Data and Source Information

Source: [Addgene](#)

Usage and Citation Metrics

We found 31 mentions in open access literature.

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

Zhu M, et al. (2025) The cAMP-PKA signaling initiates mitosis by phosphorylating Bora. Nature communications, 16(1), 7898.

Fan Z, et al. (2022) Reactive Human Plasma Glutathione Peroxidase Mutant with Diselenide Bond Succeeds in Tetramer Formation. Antioxidants (Basel, Switzerland), 11(6).

González SS, et al. (2021) Genetic Code Expansion in the Engineered Organism Vmax X2: High Yield and Exceptional Fidelity. ACS central science, 7(9), 1500.

Chung CZ, et al. (2021) Introducing Selenocysteine into Recombinant Proteins in Escherichia coli. Current protocols, 1(2), e54.

Park J, et al. (2021) Effect of C-terminus Conjugation via Different Conjugation Chemistries on In Vivo Activity of Albumin-Conjugated Recombinant GLP-1. Pharmaceutics, 13(2).

Yang B, et al. (2021) Thermostable and Long-Circulating Albumin-Conjugated Arthrobacter globiformis Urate Oxidase. Pharmaceutics, 13(8).

Yang B, et al. (2021) Chemical Modification of Cysteine with 3-Arylpropionitrile Improves the In Vivo Stability of Albumin-Conjugated Urate Oxidase Therapeutic Protein. Biomedicines, 9(10).

Cole AW, et al. (2021) Heat adaptation of phage T7 under an extended genetic code. Virus evolution, 7(2), veab100.

Liu L, et al. (2021) Convenient Genetic Encoding of Phenylalanine Derivatives through Their β -Keto Acid Precursors. Biomolecules, 11(9).

Yi H, et al. (2021) Comparative Analyses of the Transcriptome and Proteome of Escherichia coli C321. Δ and Further Improving Its Noncanonical Amino Acids Containing Protein Expression Ability by Integration of T7 RNA Polymerase. Frontiers in microbiology, 12, 744284.

Wang K, et al. (2021) Phosphorylation at Ser68 facilitates DCAF11-mediated ubiquitination and degradation of CENP-A during the cell cycle. Cell reports, 37(6), 109987.

Bak M, et al. (2020) Recombinant Peptide Production Platform Coupled with Site-Specific Albumin Conjugation Enables a Convenient Production of Long-Acting Therapeutic

Peptide. *Pharmaceutics*, 12(4).

Baliova M, et al. (2020) Phosphorylation of Serine 157 Protects the Rat Glycine Transporter GlyT2 from Calpain Cleavage. *Journal of molecular neuroscience : MN*, 70(8), 1216.

Vincent RM, et al. (2019) Measuring Amber Initiator tRNA Orthogonality in a Genomically Recoded Organism. *ACS synthetic biology*, 8(4), 675.

De Ioannes P, et al. (2019) Structure and function of the Orc1 BAH-nucleosome complex. *Nature communications*, 10(1), 2894.

Hankore ED, et al. (2019) Genetic Incorporation of Noncanonical Amino Acids Using Two Mutually Orthogonal Quadruplet Codons. *ACS synthetic biology*, 8(5), 1168.

Baumann T, et al. (2019) Computational Aminoacyl-tRNA Synthetase Library Design for Photocaged Tyrosine. *International journal of molecular sciences*, 20(9).

Schwark DG, et al. (2018) Dissecting the Contribution of Release Factor Interactions to Amber Stop Codon Reassignment Efficiencies of the *Methanocaldococcus jannaschii* Orthogonal Pair. *Genes*, 9(11).

Schlesinger O, et al. (2018) Electron transfer rate analysis of a site-specifically wired copper oxidase. *Physical chemistry chemical physics : PCCP*, 20(9), 6159.

Wright DE, et al. (2018) Acetylation Regulates Thioredoxin Reductase Oligomerization and Activity. *Antioxidants & redox signaling*, 29(4), 377.