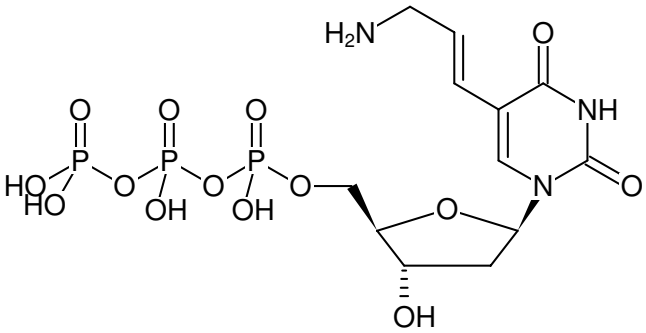
DATA SHEET

Jena Bioscience

Aminoallyl-dUTP - Solution

5-(3-Aminoallyl)-2'-deoxyuridine-5'-triphosphate, Sodium salt

Cat. No.	Amount
NU-803S	10 µl (100 mM)
NU-803L	5 x 10 µl (100 mM)
NU-803XL	100 µl (100 mM)



Structural formula of Aminoallyl-dUTP - Solution

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible.

Shelf Life: 12 months after date of delivery

Molecular Formula: $C_{12}H_{20}N_3O_{14}P_3$ (free acid)

Molecular Weight: 523.22 g/mol (free acid)

Exact Mass: 523.02 g/mol (free acid)

CAS#: 116840-18-7

Purity: ≥ 95 % (HPLC)

Form: solution in water

Color: colorless to slightly yellow

Concentration: 100 mM - 110 mM

pH: 7.5 ±0.5

Spectroscopic Properties: λ_{max} 289 nm, ε 7.1 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
Incorporation into DNA/cDNA by

- PCR with *Taq* polymerase[1], in-house data
- Nick Translation with DNAse I/ DNA Polymerase I[2]
- Primer Extension with Klenow *exo*$^-$ [3]
- 3'-End Labeling with Terminal deoxynucleotidyl Transferase (TdT)[4]
- Reverse Transcription with MMLV Reverse Transcriptase[2]

Description:
Aminoallyl-dUTP is recommended for two-step labeling of DNA/cDNA e.g. by PCR, Nick Translation, Primer Extension, 3'-End Labeling and Reverse Transcription. It is enzymatically incorporated into DNA/cDNA as substitute for its natural counterpart dTTP. The resulting Amine-functionalized DNA/cDNA can subsequently be labeled via the classic Amine/NHS Ester reaction that offers the choice

- to introduce a Biotin group (via NHS Ester of Biotin) for subsequent purification tasks
- to introduce fluorescent group (via NHS Ester of fluorescent dyes) for subsequent microscopic imaging

Selected References:

[1] Dirsch *et al.* (2007) Probe production for *in situ* hybridization by PCR and subsequent covalent labeling with fluorescent dyes. *Appl. Immunohistochem. Mol. Morphol.* **3**:332.

[2] Cox *et al.* (2004) Fluorescent DNA hybridization probe preparation using amine modification and reactive dye coupling. *BioTechniques* **36**:114.

[3] Cherkasov *et al.* (2010) New Nucleotide Analogues with Enhanced Signal Properties. *Bioconjugate Chem.* **21 (1)**:122.

[4] Unciti-Broceta *et al.* (2003) The use of solid supports to generate nucleic acid carriers.*Accounts of Chemical Research* **45**:1140.