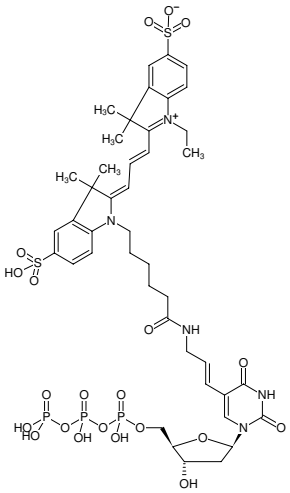
DATA SHEET

Jena Bioscience

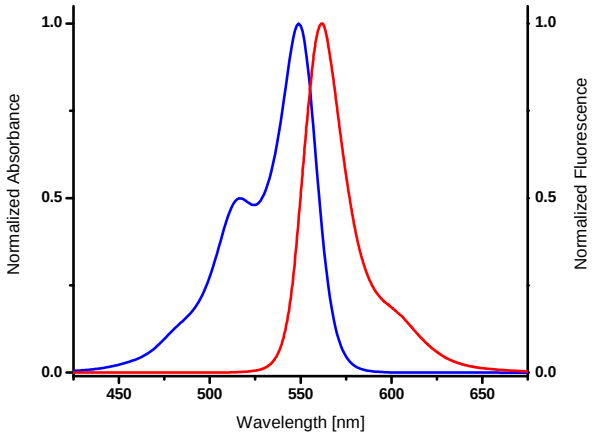
# Aminoallyl-dUTP-Cy3

5-(3-Aminoallyl)-2'-deoxyuridine-5'-triphosphate, labeled with Cy3, Triethylammonium salt

| Cat. No. | Amount |
|---|---|
| NU-803-CY3-S | 10 µl (1 mM) |
| NU-803-CY3-L | 5 x 10 µl (1 mM) |



Structural formula of Aminoallyl-dUTP-Cy3




Excitation and Emission spectrum of Cy3

**For general laboratory use.**

**Please centrifuge briefly before opening (volume ≤2 ml).**

**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:** $C_{43}H_{56}N_5O_{21}P_3S_2$ (free acid)

**Molecular Weight:** 1135.97 g/mol (free acid)

**Exact Mass:** 1135.21 g/mol (free acid)

**Purity:** ≥ 95 % (HPLC)

**Form:** solution in 10 mM Tris-HCl

**Color:** pink

**Concentration:** 1.0 mM - 1.1 mM

**pH:** 7.5 ±0.5

**Spectroscopic Properties:** $\lambda_{exc}$ 550 nm, $\lambda_{em}$ 570 nm, ε 150.0 L mmol$^{-1}$ cm$^{-1}$ (Tris-HCl pH 7.5), $CF_{260}$ 0.08

**Applications:**
Incorporation into DNA/cDNA by
- Primer Extension with Klenow fragment[1]
- PCR with *Taq* polymerase in-house data
- Nick Translation with DNAse I/ DNA Polymerase I in-house data

**Description:**
Aminoallyl-dUTP-Cy3 is recommended for direct enzymatic labeling of DNA/cDNA e.g. by PCR and Nick Translation. It is incorporated as substitute for its natural counterpart dTTP. The resulting Dye-labeled DNA/cDNA probes are ideally suited for fluorescence hybridization applications such as FISH or microarray-based gene expression profiling. Optimal substrate properties and thus labeling efficiency is ensured by an optimized linker attached to the C5 position of uridine.

Recommended Aminoallyl-dUTP-Cy3/dTTP ratio for PCR and Nick Translation: 30-50% Aminoallyl-dUTP-Cy3/ 50% dTTP

*Please note: Protect the Dye-labeled dUTP from exposure to light and carry out experimental procedures in low light conditions. The optimal final concentration of the Dye-labeled dUTP may very depending on the application and assay conditions. For optimal product yields and high incorporation rates an individual optimization of the Dye-labeled-dUTP/dTTP ratio is recommended.*

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**Selected References:**
[1] Walsh *et al.* (2017) Measurement of incorporation kinetics of non-fluorescent native nucleotides by DNA polymerases using fluorescence microscopy. *Nucleic Acids Res.* **45 (21)**:e175.