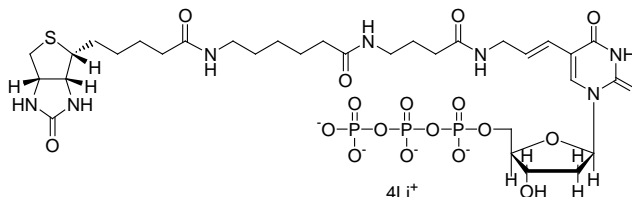


PRODUCT AND SAFETY DATA SHEET

PRODUCT NAME: **Biotin-16-dUTP, lyophilized powder (Biotin-16-2'-deoxyuridine-5'-triphosphate, tetralithium salt)**

CATALOG # 40022-1

MOLECULAR INFORMATION: C₃₂H₄₈N₇O₁₈P₃SLi₄
MWt: 971.5

**PROPERTIES:**

Color & Form Colorless solid
Purity ≥ 95% by TLC

STORAGE AND HANDLING:

Stored desiccated at -20 °C. Decomposition of about 5% may occur within six months.

APPLICATION:

Biotin-16-dUTP can be enzymatically incorporated into DNA via nick translation, random priming, or 3'-end terminal labeling.¹ The terminal deoxynucleotidyl transferase (TDT)-mediated biotin-dUTP nick end-labeling (TUNEL) method has been commonly used for apoptosis studies.²⁻⁴ The number "16" is the number of atoms in the linker between biotin and dUTP. Biotium also offers biotin-11-dUTP (**40029** and **40029-1**) and biotin-21-dUTP (**40030** and **40030-1**). In general, the shorter the linker, the more efficiently the biotin-dUTP is incorporated into DNA by DNA polymerases. On the other hand, the longer the linker, the better biotin can interact with avidin or streptavidin. Note: for PCR applications, Taq polymerase should be used with dUTP conjugates, because dUTP inhibits archaeal polymerases such as Pfu and Vent.^{5,6}

Please also see our streptavidin conjugates labeled with our exceptionally bright and photostable CF™ dyes. There are more than 20 CF dyes available with wavelengths spanning the entire visible and near-IR spectra.

Ref.: 1) *Anal. Biochem.* **193**, 2(1991); 2) *J. Cell. Biol.* **119**, 493(1992); 3) *NeuroReport*, **7**, 61(1995); 4) *Biotechniques* **19**, 800(1995); 5) *Anal Biochem.* **211**,164(1993); 6) *PNAS* **99**,596(2002).

TOXICITY: Unknown

FIRST AID: Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.

Disclaimer: Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use. Biotium is not liable for any damage resulting from handling or contact with this product.