

dUTP (100mM)

D745475

Store at -20°C

Introduction:

dUTP, 2'-deoxyuridine 5'-triphosphate, is commonly used in PCR with Taq DNA polymerase, primer extension, and cDNA synthesis. It is commonly used in conjunction with the UDG enzyme that can recognize and excise deoxyuracil bases to prevent carryover contamination by PCR products from surroundings.

dUTP can be used in PCR with polymerase family A members such as Taq, and also for isothermal amplification with Bst DNA Polymerase. Some enzymes that can use dATP, dTTP, dGTP, dCTP, may not be able to use dUTP. Please refer to manufacture's instructions of a particular enzyme or make a test. In PCR with Taq DNA polymerase, dUTP can replace dTTP or can be added to the reaction mix at an equal concentration to other dNTPs. For isothermal amplification with Bst DNA Polymerase, dUTP can replaced 50% dTTP at most. Otherwise, the isothermal amplification will be significantly inhibited.

Usually, dUTP and uracil DNA glycosylase (UDG enzyme) are used in conjunction to establish the dUTP/UDG anti-pollution system in which the UDG enzyme can enzymatically remove possible contamination from previous PCR products containing deoxyuracil (dU), thus effectively minimize cross-over contamination.

The molecular formula of dUTP is $C_9H_{12}N_2O_{14}P_3Na_3$ with a molecular weight of 534.1 (468.1 in acid form). Its maximum absorption wavelength is 262nm.

This dUTP solution is prepared with ultrapure water to a concentration of 100mM. The pH is titrated to 7.0 with high-purity NaOH solution. This product is free of DNase, RNase, phosphatase and protease, and can be directly used for different molecular biology applications.

Matters needing attention:

1. The UDG enzyme does not work for cases that have been contaminated by dU-free PCR products. In this case, the primers can be redesigned to amplify other regions of target DNA. The dUTP/UDG anti-pollution system should be established to minimize cross-over contamination.
2. This product can be thawed at room temperature. Keep it on ice for use and store at -20°C immediately after use.
3. This product is for R&D only. Not for drug, household, or other uses.
4. For your safety and health, please wear a lab coat and disposable gloves during the



operation.

