

## Cy5-UTP

Catalog Number: 17114, 17115

Unit Size: 25 nmoles, 100 nmoles

### Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	24 months upon receiving

### Chemical Properties

Appearance	Liquid dark blue
Molecular Weight	1178.01
Soluble In	Water
Chemical Structure	

### Spectral Properties

Excitation Wavelength	651 nm
Emission Wavelength	670 nm

### Applications

Cy5-UTP is a fluorescently labeled nucleotide that serves as an alternative to UTP in T7 RNA polymerase-mediated in vitro transcription, enabling the generation of labeled RNA probes. These probes are well-suited for multicolor fluorescence analysis, including dual-color expression arrays, microarrays, fluorescence in situ hybridization (FISH), chromosome identification, whole chromosome painting, karyotyping, and gene mapping.

Cy5-UTP incorporates efficiently into RNA transcripts via T7 RNA polymerase, imparting fluorescent properties that facilitate the tracking of RNA distribution, localization, and dynamics. With excitation and emission maxima at 651 nm and 670 nm, respectively, Cy5-UTP-labeled mRNA is readily detectable under UV light without the need for additional staining following gel electrophoresis. Furthermore, Cy5-UTP enables single-molecule fluorescence resonance energy transfer (FRET) measurements, allowing real-time monitoring of co-transcriptional RNA folding. Cyanine-labeled nucleotides, including Cy5-UTP, exhibit bright, intense fluorescence with narrow emission spectra, making them highly suitable for multiplexed fluorescence imaging applications.