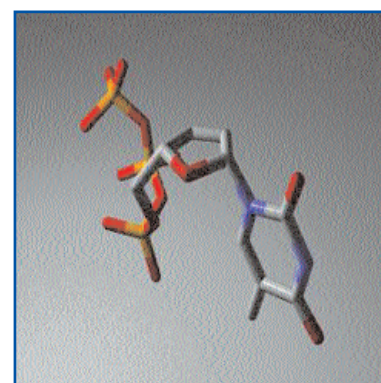


# Nucleoside Triphosphates



**2'-Deoxynucleoside 5'-Triphosphates, UV data**

**2'-Deoxyadenosine 5'-Triphosphate**

**2'-Deoxycytidine 5'-Triphosphate**

**2'-Deoxyguanosine 5'-Triphosphate**

**Thymidine 5'-Triphosphate**

**2'-Deoxyuridine 5'-Triphosphate**

**dNTP Mixtures and Sets**

**3'-Azido-3'-Deoxythymidine 5'-Triphosphate (AZT Triphosphate)**

**5'-Bromo-2'-Deoxyuridine 5'-Triphosphate (BrUdR Triphosphate)**

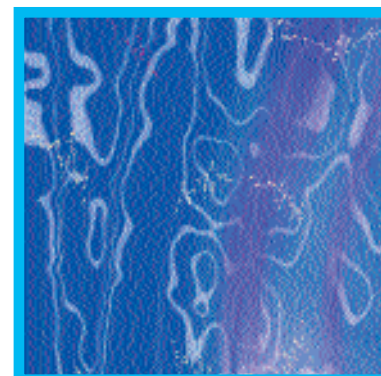
**3'-Deoxy -2',3'-Didehydrothymidine 5'-Triphosphate (d4T Triphosphate)**

**Flu-12-dUTP**

**TAMRA-dUTP**

**7-deaza-dGTP**

**Bio-11-dUTP**



# Nucleoside Triphosphates

## 2'-Deoxynucleoside 5'-Triphosphates

Deoxynucleoside 5'-Triphosphates are chemically synthesized from deoxynucleoside 5'-monophosphates by Reversed Phase Chromatographie and purified by Ion-Exchange Chromatography. The purity >98% allows highly consistent results. dNTP's effectively direct PCR with the amplicon size up to 10kb. Each particular dNTP is free from the traces of other dNTP's. dNTP's are supplied in tetrasodium salts, in solutions and in powder.

## 2'-Deoxynucleoside 5'-Triphosphates, UV data

dNTP	Spectra - Acid			Spectra-Neutral			Spectra-Alkaline		
	pH	$\lambda_{max}$	$a_m/10^{-3}$	pH	$\lambda_{max}$	$a_m/10^{-3}$	pH	$\lambda_{max}$	$a_m/10^{-3}$
dATP	2.0	258	14.8	7.0	259	15.4	12.0	260	15.4
dCTP	2.0	280	13.1	7.0	272	9.1	12.0	273	8.6
dGTP	2.0	255	12.3	7.0	252	13.7	12.0	262	11.7
TTP	2.0	267	9.6	7.0	267	9.6	12.0	267	7.8
dUTP	2.0	262	10.0	7.0	262	10.0	12.0	261	8.0

## 2'-Deoxyadenosine 5'-Triphosphate (dATP)

### Brutto Formula:

$C_{10}H_{16}O_{12}N_5P_3$  (Anhydrous Free Acid).

MW: 491.2 (Anhydrous Free Acid).

### dATP, Tetrasodium Salt, 20mM

Cat#	Pack Size
110023	0.2 ml
110024	1 ml

### dATP, Tetrasodium Salt, 100mM

Cat#	Pack Size
110003	0.2 ml
110004	1 ml

### dATP $\times$ 3H $_2$ O, Tetrasodium Salt, powder

Cat#	Pack Size
110103	1 g

## 2'-Deoxycytidine 5'-Triphosphate (dCTP)

### Brutto Formula:

$C_9H_{16}O_{13}N_3P_3$  (Anhydrous Free Acid).

MW: 467.2 (Anhydrous Free Acid).

### dCTP, Tetrasodium Salt, 20mM

Cat#	Pack Size
110025	0.2 ml
110026	1 ml

### dCTP, Tetrasodium Salt, 100mM

Cat#	Pack Size
110005	0.2 ml
110006	1 ml

### dCTP $\times$ 3H $_2$ O, Tetrasodium Salt, powder

Cat#	Pack Size
110203S	1 g

## 2'-Deoxyguanosine 5'-Triphosphate (dGTP)

**Brutto Formula:**

$C_{10}H_{16}O_{13}N_5P_3$  (Anhydrous Free Acid).

**Formula Weight:** 507.2 (Anhydrous Free Acid).

**dGTP, Tetrasodium Salt, 20mM**

Cat#	Pack Size
110027	0.2 ml
110028	1 ml

**dGTP, Tetrasodium Salt, 100mM**

Cat#	Pack Size
110007	0.2 ml
110008	1 ml

**dGTPx3H<sub>2</sub>O, Tetrasodium Salt, powder**

Cat#	Pack Size
110207	1 g

## Thymidine 5'-Triphosphate (TTP)

**Brutto Formula:**

$C_{10}H_{17}O_{14}N_2P_3$  (Anhydrous Free Acid).

**Formula Weight:** 482.2 (Anhydrous Free Acid).

**TTP, Tetrasodium Salt, 20mM**

Cat#	Pack Size
110029	0.2 ml
110030	1 ml

**TTP, Tetrasodium Salt, 100mM**

Cat#	Pack Size
110009	0.2 ml
1100010	1 ml

**TTPx3H<sub>2</sub>O, tetrasodium salt, powder**

Cat#	Pack Size
110209	1 g

## 2'-Deoxyuridine 5'-Triphosphate (dUTP)

**Brutto Formula:**

$C_9H_{15}O_{14}N_2P_3$  (Anhydrous Free Acid).

**Formula Weight:** 468.2 (Anhydrous Free Acid).

**Tetrasodium salt**

Supplied in 100mM solutions and in powder.

**dUTP, Tetrasodium Salt, 100mM**

Cat#	Pack Size
109001	0.2 ml
109004	1 ml

**dUTPx3H<sub>2</sub>O, Tetrasodium Salt, powder**

Cat#	Pack Size
110210	1 g

## dNTP Mixtures and Sets

**4you4 dNTP Mix, 40mM**

Cat#	Pack Size
110001	200 µl
110002	1000 µl

**4you4 dNTP Mix** is a premixed solution of tetrasodium salts of dATP, dCTP, dGTP and dTTP, each at concentration of 10mM in water (pH 7.5). This solution is ready for use and is optimized for PCR and other applications. Use one microliter of the Mix for PCR amplification in 50µl reaction volume.

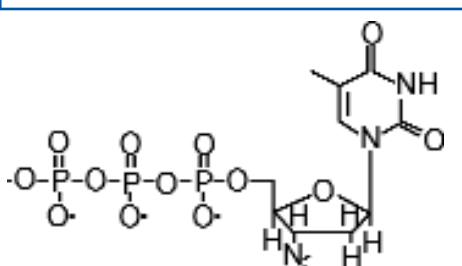
**Set of 4 dNTPs (dATP, dGTP, dCTP, TTP)**

Cat#	Pack Size
110011	4x200 µl, 100 mM
110012	4x1000 µl, 100 mM
110031	4x200 µl, 20 mM
110032	4x1000 µl, 20 mM

# Nucleoside Triphosphates

## 3'-Azido-3'-Deoxythymidine 5'-Triphosphate (AZT Triphosphate)

Tri(triethylammonium) Salt, MW 505 (Free Acid)



3'-Azido-3'-  
Deoxythymidine  
5'-Triphosphate

AZT triphosphate, 100mM

Cat#	Pack Size
503010	100 µl
503050	500 µl

### Description:

AZT is a widely used antiviral agent. AZT penetrates the cell membrane and is converted into AZT triphosphate which inhibits the reaction of reverse transcription. AZT triphosphate can be used for inhibition of reverse transcription *in vitro* and for the investigation of polymerase-substrate interactions.

### Quality Control:

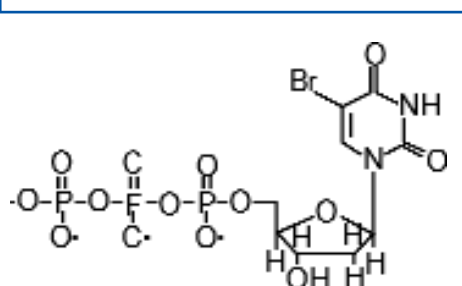
HPLC purity >96%, inhibition of DNA-polymerase activity.

**Concentration:** 100 mM, water solution.

**Storage Conditions:** -20°C

## 5-Bromo-2'-Deoxyuridine 5'-Triphosphate (Br-dUTP)

Tri(triethylammonium) salt, MW 547 (Free Acid)



5'-Bromo-2'-  
Deoxyuridine  
5'-Triphosphate

BrUdR-Triphosphate

Cat#	Pack Size
504010	100 µl
504050	500 µl

BrUdR Triphosphate can be used for incorporating into DNA for the subsequent detection with anti-BrUdR antibodies. BUdR triphosphate incorporation into DNA is also a tool for random-mutation introduction.

### Quality Control:

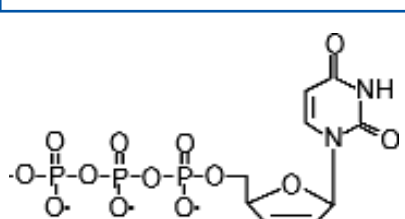
HPLC purity >96%, effective incorporation into DNA in PCR.

**Concentration:** 100 mM, water solution.

**Storage Conditions:** -20°C.

## 3'-Deoxy -2',3'-Didehydrothymidine 5'-Triphosphate (d4T Triphosphate)

Tetra(triethylammonium) salt, MW 461 (Free Acid)



3'-Deoxy -2',3'-  
Didehydrothymidine  
5'-Triphosphate

d4T Triphosphate

Cat#	Pack Size
505005	50 µl

Inhibitor of reverse transcription.

### Quality Control:

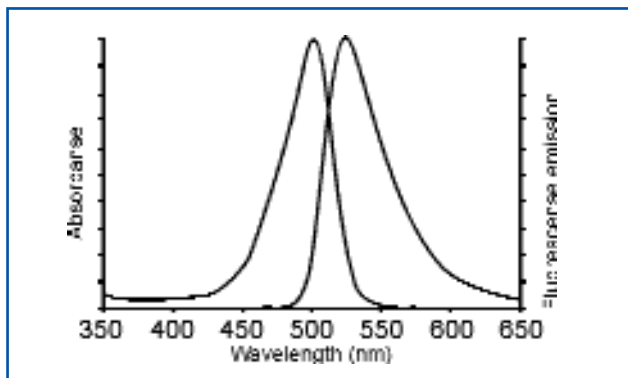
HPLC purity >96%, inhibition of reverse transcription activity.

**Concentration:** 100 mM, water solution.

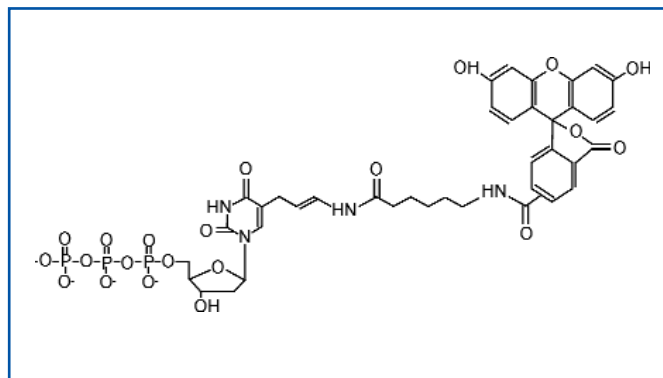
**Storage Conditions:** -20°C.

## Flu-12-dUTP

**Flu-12-dUTP, Fluorescein-5(6)-carboxamidocaproyl-[5(3-aminoallyl)2'-deoxyuridine-5'-triphosphate].**  
Tri(triethylammonium) Salt, MW 994 (Free Acid)



Absorption and fluorescence emission spectra of fluorescein-labeled dUTP in pH 8.0 buffer.



### Application:

Fluorescent labeling of DNA by terminal deoxynucleotidyl transferase or DNA-polymerases.

### Concentration:

1mg/ml, water solution

**Purity:** >96% (HPLC)

**Storage Conditions:** -20°C.

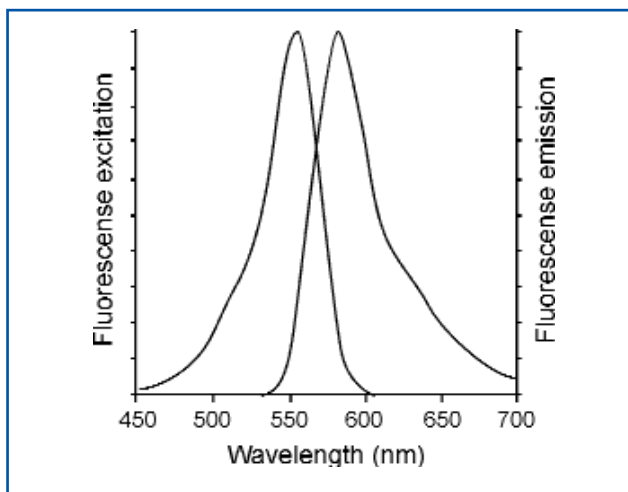
Can be supplied as a dry powder on request.

### Flu-12-dUTP

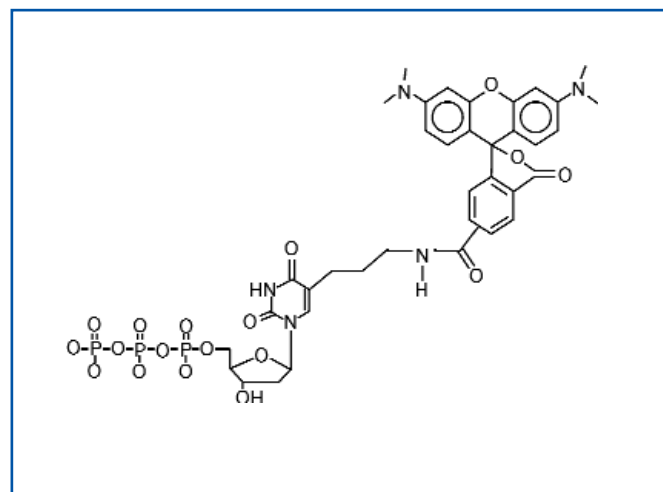
Cat#	Pack Size
507004	40 µl

## TAMRA-dUTP

**Tetramethylrhodamin-5(6)-[5-(3-carboxaminoallyl) 2'-deoxyuridine 5'-triphosphate, MW992 (Free Acid Salt)**



Absorption and fluorescence emission spectra of Tetramethylrhodamin-dUTP in pH 8.0 buffer



### Application:

Fluorescent labelling of DNA by terminal deoxynucleotidyl transferase or DNA-polymerases.

### Concentration:

1mg/ml, water solution.

**Storage Conditions:** -20°C.

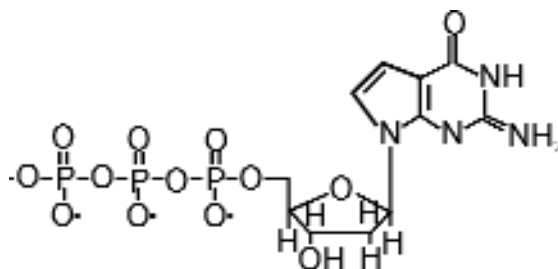
Can be supplied as a dry powder on request.

### TAMRA-dUTP

Cat#	Pack Size
502105	40 µl

# Nucleoside Triphosphates

## 7-deaza-dGTP



### Application:

7-deaza-dGTP may be effectively incorporated into DNA by DNA polymerases and/or terminal deoxynucleotidyl transferase. 7-deaza-dG - containing DNA duplexes demonstrate increased stability, 7-deaza-dG - containing DNA penetrates cell membrane more effectively due to the increased lipophilicity.

7-deaza dGTP may be used in sequencing for the resolution of the compressions in G-C-rich regions. Amplification of some DNA regions is often hindered due to the high G-C content. Replacement of dGTP to 7-deaza dGTP in the master mix may solve the problems.

**Concentration:** 50-100mM.

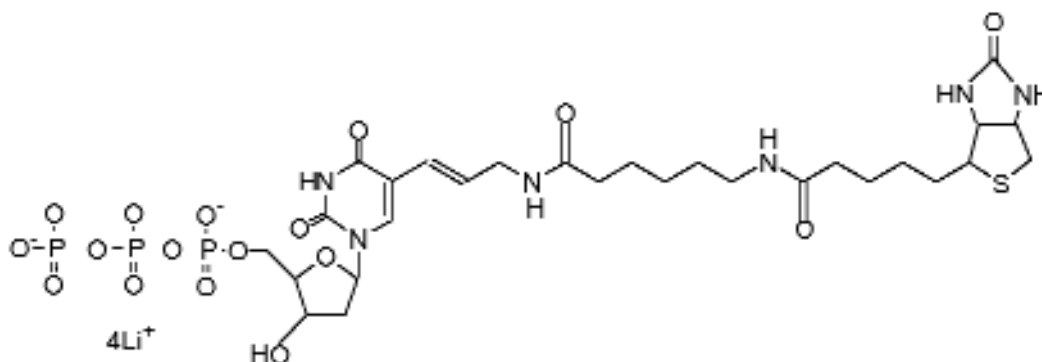
**Purity:** >96% (HPLC).

**Storage Conditions:** - 20°C.

### 7-deaza-dGTP

Cat#	Pack Size
508105	2 µmol

## Biotin-11-dUTP (Bio-11-dUTP)



### Description:

Biotin-11-dUTP (Biotin-11-2'-deoxyuridine-5'-triphosphate, tetralithium salt) is a widely used compound for non-radioactive DNA labeling. Biotin-11-dUTP can be enzymatically incorporated into DNA via nick-translation, random priming, 3'-end terminal labeling or in the process of PCR. The number "11" is the number of carbon atoms in the backbone of linker between dUTP and biotin. The longer the linker is, the more effective interaction of biotin with avidin occurs. From the other side, the shorter the linker is, the more effective incorporation of dUTP into DNA can be provided.

The length of linker "11" is optimal for the majority of

applications.

### Purity:

More than 96% (Ion-Exchange Chromatography, TLC, NMR, UV-Spectroscopy).

**Concentration:** 1mM.

**Storage Buffer:** 10mM TrisHCl, pH 7.5, 1mM EDTA.

**Storage Conditions:** -20°C.

### Biotin-11-dUTP

Cat#	Pack Size
509005	100 µl