ddNTPs - Dideoxynucleotide triphosphates

Cat.-No. 110-020 4x (2x500µl each ddNTP)

Used in single nucleotide polymorphisms and as 3´-end chain terminators in Sanger sequencing

Description:

ddNTPs from GeneON in combination with modified Taq DNA Polymerase are used as 3'-end chain terminators in Sanger sequencing. @ pH 8,0 in water the high purity between more than 98 % (HPLC) offers a great performance in chain termination sequencing. **Tested and designed especially for Sequencing reactions!**

Application:

2‘,3‘-Dideoxynucleoside triphosphates inhibit the chain elongation of a given primer catalyzed by the DNA polymerase (e.g. Klenow enzyme) and are therefore used for DNA sequencing according to Sanger. Sequencing is achieved by including in each reaction a dideoxy-nucleotide that acts as a chain terminator. Four reactions are set up, each containing the same template and primer but a chain terminator specific for A, C, G or T. Because only a small amount of the chain terminator is included, incorporation into the new DNA strand is a random event. Each reaction therefore generates a collection of fragments, but every DNA strand will end at the same type of base (A, C, G or T).

SNP: multiplexing by minisequencing
Multiplexed detection of alternatively spliced transcripts
Effect on reverse transcriptase of HIV-1
Molecular dynamic calculations of DNA-polymerase beta-ddCTP complex

Spectro-Data @ pH 7,5 ±0.5, Tris-HCL

ddATP: λmax 259 nm, ε 15.1 L $mmol^{-1}$ cm^{-1}

ddCTP: λmax 271 nm, ε 8.9 L $mmol^{-1}$ cm^{-1}

ddGTP: λmax 252 nm, ε 14.2 L $mmol^{-1}$ cm^{-1}

ddTTP: λmax 267 nm, ε 9.6 L $mmol^{-1}$ cm^{-1}

Molecular Weight and Formula:

ddATP: 475.18 g/mol $C_{10}H_{16}N_5O_{11}P_3$ (acid free)

ddCTP: 451.16 g/mol $C_9H_{16}N_3O_{12}P_3$ (acid free)

ddGTP: 491.18 g/mol $C_{10}H_{16}N_5O_{12}P_3$ (acid free)

ddTTP: 466.17 g/mol $C_{10}H_{17}N_2O_{13}P_3$ (acid free)

Concentration: 10 mM – 11 mM; >98 % HPLC

Note:

- spin all reagents in the vial before opening and after setting up the Termination Mix

Quality tests:

The ddNTPs are tested:
- for the absence the absence of DNases and RNases
- for successfully sequencing reaction

Transport: on blue ice
Storage: few days at room temperature; for long term storage @ -20 °C;
Ordering details:

Cat.-no	Description	Amount
110-020	Set of ddNTP	8 x 500µl (8 x 5 µmol)

.. a good decision ..