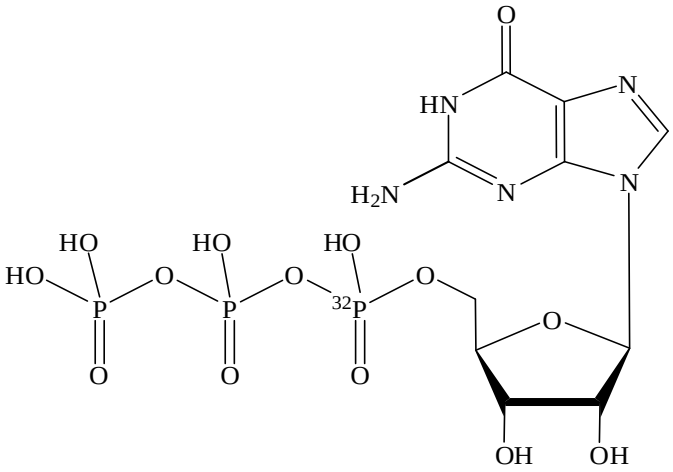
Guanosine 5′-Triphosphate, [α -^{32}P]-

Product Number: BLU506H

LOT SPECIFIC INFORMATION

Lot Number:	12124
Specific Activity:	3000 Ci/mmol
	111 TBq/mmol
Concentration:	10.0 mCi/ml
	370.0 MBq/ml
	3.33 µM
Calibration Date:	21-Dec-2024



M.W. 524.18

$C_{10}H_{16}N_5O_{14}P_2{}^{32}P$

PACKAGING: 10.0mCi/ml (370.0 MBq/ml) on the Calibration Date in a 50mM Tricine pH 7.6 solution containing a stabilizer.* A green dye is added as a visual aid for pipeting. The product is shipped ambient in a plastic container. The lead-free container is non-toxic and environmentally friendly.

* U.S. Patent # 5,738,836

STABILITY AND STORAGE: Guanosine 5′-Triphosphate, [α -32P]- should be stored at 4°C or below in its original solvent and at its original concentration. Lot to lot variation may occur, and it is advisable to check purity prior to use. This product will undergo decomposition if left at room temperature for long periods. It is recommended that the product remain on ice while in use. Pre-mixing and aliquoting the product is recommended.

HAZARD INFORMATION: WARNING: This product contains a chemical known to the state of California to cause cancer.

QUALITY CONTROL:

Radiochemical Purity: This lot was initially found to be >95% when determined by the following analytical HPLC method using a C-18 column. Elution is isocratic by a mixture of 70% Solvent A (20mM potassium phosphate, 20mM phosphoric acid containing 10mM tetrabutylammonium hydroxide) and Solvent B (30% methanol). The radiochemical purity is usually greater than 99% when purified.

Isotopic Purity: All lots of ^{32}P are typically > 99.9% pure.

Biological Testing: Transcription Assay-T7 or SP6 Polymerase Assay

PREPARATIVE PROCEDURE: Each lot has been purified by HPLC using an anion exchange resin eluting with Triethylammoniumbicarbonate. The purified nucleotide will be in the triethylammonium salt form. Consistently high quality - Synthesized, diluted, and packaged using state of the art automation.

SAFE HANDLING: Dosimeters should be used by all personnel working with ^{32}P. If millicurie quantities are manipulated, finger badges are also recommended. Acrylic plastic (1/4 inch) is the recommended shielding for working with quantities of ^{32}P up to 10mCi. A radiation protection specialist should be consulted for specific

applications. Whenever working with ^{32}P on the open bench, the eyes should be shielded with approved safety glasses.

DISPOSAL: Hold for decay; specific regulations should be addressed with your radiation safety officer.

SPECIAL INFORMATION: Visit www.revvity.com to use our online Radioactive Decay Calculator.

Specific Activity Before Calibration Date

The specific activity is specified as of the calibration date. This must be taken into consideration when calculating concentration in mass-dependent applications. The specific activity on any day prior to the calibration date can be calculated using the formula:

$$SA = \frac{SA\ cal.}{D_F + \frac{SA\ cal.\ (1-D_F)}{SA\ Theo}}$$

Specific Activity After Calibration Date

The specific activity on any day after the calibration date can be calculated using the formula:

$$SA = \frac{D_F}{\frac{1}{SA\ cal.} - \frac{(1-D_F)}{SA\ Theo}}$$

Where:

SA = Specific Activity expressed as Ci/mmol

SA cal = Specific Activity on the calibration date.

D_F = Fraction of current radioactivity that will remain on the calibration date (from the decay chart)
For example, for a date 8 days prior to the calibration date D_F = 0.678.

SA Theo = 9120 Ci/mmol for the theoretical specific activity of carrier free ^{32}P.

PHOSPHORUS-32 DECAY TABLE HALF LIFE= 14.3 DAYS

days	0	1	2	3	4	5	6	7	8	9
0	1.000	0.953	0.906	0.865	0.824	0.785	0.748	0.712	0.678	0.646
10	0.616	0.587	0.559	0.532	0.507	0.483	0.460	0.436	0.418	0.396
20	0.379	0.361	0.344	0.328	0.312	0.297	0.283	0.270	0.257	0.245
30	0.233	0.222	0.212	0.202	0.192	0.183	0.174	0.166	0.158	0.151
40	0.144	0.137	0.130	0.124	0.118	0.113	0.107	0.102	0.096	0.093
50	0.088	0.084	0.080	0.077	0.073	0.069	0.066	0.063	0.060	0.057
60	0.054	0.052	0.049	0.047	0.045	0.043	0.041	0.039	0.037	0.035

To use the decay table above, find the number of days in the top and left hand columns of the chart, then find the corresponding decay factor. To obtain a precalibration number, divide by the decay factor. For a postcalibration number, multiply by the decay factor.

Revvity, Inc.
940 Winter Street
Waltham, MA 02451 USA
(800) 762-4000
www.revvity.com