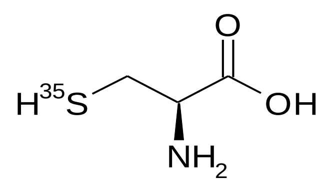
Cysteine, L-[^{35}S]-

Product Number: NEG022T

LOT SPECIFIC INFORMATION

Lot Number:	12234
Specific Activity:	1075 Ci/mmol
	39.8 TBq/mmol
Concentration:	11.0 mCi/ml 407.0 MBq/ml 0.0102 µmol/ml 0.0012 mg/ml
Calibration Date:	17-Jan-2025



M.W. 121.15

$C_3H_7NO_2S$

PACKAGING: Aqueous solution containing 10mM dithiothreitol in a NENSURE vial with polypropylene-v-insert, shipped in dry ice.

STABILITY AND STORAGE:

▪The rate of decomposition of Cysteine, L-[^{35}S]- is less than 3% per month when stored as supplied at -80°C. Storage at higher temperatures will result accelerated breakdown.

▪Regardless of storage temperature, repeated freezing and thawing can result in product degradation. If the entire quantity will not be used at once, it is recommended that the product be thawed quickly, aliquoted under N_2 into samples of an appropriate size, refrozen immediately and stored at -20°C or below.

▪Removal of DTT is not advised. This results in rapid oxidation of the material.

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 high performance liquid chromatography on a C18 column.

Chemical Purity: As determined by amino acid analysis, NEG-022T contains the unlabeled amino acid serine. This may be present in up to a 3:1 molar ratio relative to Cysteine, L-[^{35}S].

PREPARATIVE PROCEDURE: Cysteine, L-[^{35}S] is obtained from the protein hydrolysate of bacteria grown in the presence of carrier-free [^{35}S] sulfate. The product is purified by high performance liquid chromatography.

SAFE HANDLING: Because this product has been stored at -80°C, it is possible that pressure may develop in the vial during the thawing process. In addition, volatile ^{35}S-labeled decomposition products are generated at a rate of ~0.01% per week. We recommend that prior to opening, vials are first vented in a fume hood using the following procedure:

▪Slide aside the dust cover on the cap to expose the septum.

▪Pierce the septum with a cotton-plugged syringe needle or charcoal trap (NENTM NEX-033T), taking care that the tip does not come into contact with the product.

▪If the product is frozen, quickly thaw at room temperature or in a 37° C water bath. Any pressure developed will vent through the syringe needle.
▪Remove the needle and dispose of as contaminated equipment.

When used for *in vivo* labeling experiments, we recommend that specific steps be taken to minimize incubator and water bath contamination. We suggest using a shallow tray of activated charcoal, charcoal sticks or charcoal filter units to trap ^{35}S volatiles and reduce contamination.

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

Decay of ^{35}S (physical half-life, 87.4 days):

DECAY FACTORS

Days BEFORE Assay Date	0	1	2	3	4	5	6	7	8	9
30	1.269	1.279	1.289	1.299	1.309	1.320	1.330	1.341	1.352	1.362
20	1.172	1.181	1.191	1.200	1.210	1.219	1.229	1.239	1.249	1.259
10	1.083	1.091	1.100	1.109	1.117	1.135	1.135	1.144	1.153	1.163
0	1.000	1.008	1.016	1.024	1.032	1.049	1.049	1.057	1.066	1.074

Days AFTER Assay Date	0	1	2	3	4	5	6	7	8	9
0	1.000	0.992	0.984	0.976	0.969	0.961	0.954	0.946	0.939	0.931
10	0.924	0.916	0.909	0.902	0.895	0.888	0.881	0.874	0.867	0.860
20	0.853	0.847	0.840	0.833	0.827	0.820	0.814	0.807	0.801	0.795
30	0.788	0.782	0.776	0.770	0.764	0.758	0.752	0.746	0.740	0.734

The specific activity at time t (SA_t) may be calculated, using the following equation, from the specific activity at the calibration date (SA_o) and the decay factor (f) given above.

$$SA_t = \frac{f}{1/SA_o - (1-f)/1494}$$

REFERENCE: Rubin, I.B., and Goldstein, G., (1970) Anal. Biochem. 33, 244-254.

RELATED PRODUCTS:

NEG009A	Methionine, L-[^{35}S]-
NEG009C	Methionine, L-[^{35}S]-
NEG009H	Methionine, L-[^{35}S]-
NEG009T	Methionine, L-[^{35}S]-