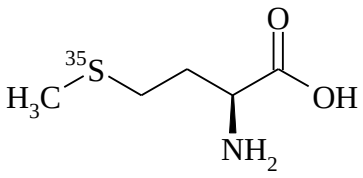
Methionine, L-[^{35}S]-

Product Number: NEG009C

LOT SPECIFIC INFORMATION

Lot Number:	06174
Specific Activity:	1175 Ci/mmol 43.5 TBq/mmol
Concentration:	43.3 mCi/ml 1602.1 MBq/ml 0.0369 µmol/ml 0.0055 mg/ml
Calibration Date:	12-Jul-2024



M.W. 149.2
$C_5H_{11}NO_2S$

PACKAGING: 50mM Tricine (pH 7.4) containing 10µmoles 2-mercaptoethanol per ml, in a NENSURE vial with polypropylene-v-insert, shipped in dry ice.

STABILITY AND STORAGE:

- The rate of decomposition of NEG-009C, Methionine, L-[^{35}S]- has been determined to be less than 1% per week when stored in its original solvent under nitrogen atmosphere at -80°C. The decomposition rate is approximately 2% per week when stored at -20°C.
- Storage at 4°C results in rapid conversion of product to methionine sulfoxide-[^{35}S].
- 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.
- Methionine, L-[^{35}S] is highly susceptible to oxidation and should always be protected from exposure to air, especially if it is taken to dryness.

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-009C is routinely >99% L-isomer and contains the unlabeled amino acids alanine and valine. Each is present in approximately a 2:1 molar ratio relative to Methionine, L-[^{35}S].

PREPARATIVE PROCEDURE: Methionine, 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.
Paterson, B.M., Roberts, B.E., and Kuff, E.L. (1977) Proc. Nat. Acad. Sci. USA. 73, 4370-4374.
Pelham, H.R.B. and Jackson, R.J. (1976) Eur. J. Biochem. 67, 247-256.

RELATED PRODUCTS:

NEG009A Methionine, L-[^{35}S]-
NEG022T Cysteine, L-[^{35}S]-

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