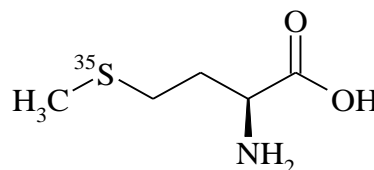


Methionine, L-[³⁵S]-, Cell Labeling Grade

Product Number: NEG009L

LOT SPECIFIC INFORMATION

| | |
|--------------------|--|
| Lot Number: | 10214 |
| Specific Activity: | 1165.5 Ci/mmol 43.5 TBq/mmol |
| Concentration: | 31.5 mCi/ml 1165.5 MBq/ml 0.0268 μmol/ml 0.0040 mg/ml |
| Calibration Date: | 15-Nov-2024 |



M.W. 149.2
C₅H₁₁NO₂S

PACKAGING: Aqueous solution containing 10mM 2-mercaptoethanol in a NENSURE vial with polypropylene-v-insert, shipped in dry ice.

PRODUCT SPECIFICATIONS: NEG-009L, Methionine, L-[³⁵S]- Cell Labeling Grade is obtained from the protein fraction of bacteria grown in the presence of carrier-free [³⁵S] sulfate. NEG-009L contains only ³⁵S-labeled L-methionine and its oxidation products, L-[³⁵S] methionine sulfoxide and L-[³⁵S] methionine sulfone. All traces of L-[³⁵S] cysteine and other ³⁵S radiolabeled contaminants are removed during processing of hydrolysate.

STABILITY AND STORAGE:

- The rate of decomposition of NEG-009L, Methionine, L-[³⁵S]- Cell Labeling Grade is approximately 8-10% per week when stored at -80°C. Storage at higher temperatures accelerates product decomposition.
- If the entire quantity will not be used at once it is recommended that the product be thawed quickly, aliquoted under N₂ into samples of an appropriate size, refrozen immediately and stored at -20°C or below.
- Methionine, L-[³⁵S] is highly susceptible to oxidation and should always be protected from exposure to air.

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-009A 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-[³⁵S].

PRODUCT APPLICATION: NEG-009L, Methionine, L-[³⁵S] is intended for use in eukaryotic or bacterial metabolic labeling studies. It is not recommended or warranted for use in cell-free mRNA-directed translations. The use of NEG-009L in the latter application produces irreproducible experimental results, with significant variability in both incorporation and background levels.

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 ³⁵S-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 ³⁵S volatiles and reduce contamination.

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

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

| | | DECAY FACTORS | | | | | | | | | |
|-------------|--|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Days BEFORE | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Assay Date | | | | | | | | | | | |
| 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 | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Assay Date | | | | | | | | | | | |
| 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_0) and the decay factor (f) given above.

$$SA_t = \frac{f}{1/SA_0 - (1-f)/1494}$$

RELATED PRODUCTS:

- NEG009A Methionine, L-[³⁵S]-
- NEG009C Methionine, L-[³⁵S]-
- NEG022T Cysteine, L-[³⁵S]-

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