

Product Information

Polyuridylic acid potassium salt

Product Number **P 9528**

Storage Temperature -0 °C

Product Description

CAS Number: 28086-43-3

λ_{max} : 260 nm¹

Extinction coefficient: $E^{\text{mM}} = 9.4$ (0.1 M phosphate buffer, pH 7.0)

Synonym: poly(U)

This product is an RNA analog. Based on the method of preparation (enzymatic synthesis), a phosphate or pyrophosphate group at the 5'-end of the resulting polymer would be expected to be present. However, the phosphorylation state of the 5'-end of this product has not been determined.

Measuring the molecular weight of this product by electrophoresis showed a molecular weight range from 800 kDa to greater than 1,000 kDa. Measuring the molecular weight of this product by low angle laser light scattering (LALLS) showed an average molecular weight that varied greatly from lot to lot; values as low as 100 kDa and as high as greater than 600 kDa have been measured.

This product has been used as a substrate for RNase A.² It has also been used in an assay to estimate the concentration of mRNA solutions.^{3,4} This product may be used to make poly(U)-agarose (Product No. P 8563), which can be used to isolate RNA binding proteins.⁵ This product has also been used to inhibit the formation of some RNA-protein complexes.^{6,7}

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This compound is soluble in water (20 mg/ml), yielding a clear, colorless solution. This product may not dissolve completely in Tris buffer with MgCl₂ at a poly(U) concentration of 1 mg/ml.

References

1. J. Chem. Soc. 1380 (1959).
2. Palmer, H. R., et al., ³¹P and ¹H NMR studies of the effect of the counteracting osmolyte trimethylamine-N-oxide on interactions of urea with ribonuclease A. J. Biol. Chem., **275**(36), 27708-27711 (2000).
3. Amundson, S. A., et al., An informatics approach identifying markers of chemosensitivity in human cancer cell lines. Cancer Res., **60**(21), 6101-6110 (2000).
4. Koch-Paiz, C. A., et al., Estimation of relative mRNA content by filter hybridization to a polyuridylic probe. Biotechniques, **29**(4), 706-714 (2000).
5. Irwin, N., et al., Identification of two proteins that bind to a pyrimidine-rich sequence in the 3'-untranslated region of GAP-43 mRNA. Nucleic Acids Res., **25**(6), 1281-1288 (1997).
6. Tillman-Bogush, M., et al., Cyclic nucleotide regulation of PAI-1 mRNA stability. Identification of cytosolic proteins that interact with an A-rich sequence. J. Biol. Chem., **274**(2), 1172-1179 (1999).
7. Ma, W. J., et al., The Elav-like proteins bind to AU-rich elements and to the poly(A) tail of mRNA. Nucleic Acids Res., **25**(18), 3564-3569 (1997).

IRB/RXR 11/03

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.