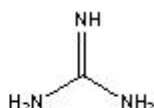


TECHNICAL INFORMATION

Catalog Number: 194003, 820898, 820899, 820900, 820991, 820992

Guanidine Thiocyanate

Structure:



Molecular Formula: CH₅N₃ · HSCN

Molecular Weight: 118.16

CAS # 593-84-0

Physical Appearance: White crystalline powder

Solubility: Soluble in water (6M aqueous solution is clear and colorless). Solutions can be sterilized by filtration using a 0.2 um filter.

Description: A chaotropic agent and a strong protein denaturant which inactivates nucleases approximately 2.5 times faster than guanidine hydrochloride. It is often used in the isolation of intact ribonucleic acid to eliminate RNase activity.^{1,2,4,8,10} A 4 M solution of guanidine thiocyanate irreversibly inactivates RNase. In the presence of guanidine thiocyanate, proteins dissolve readily, cellular structures disintegrate and nucleoproteins dissociate from nucleic acids, as protein secondary structure is lost.

Availability:

Catalog Number	Description	Size
194003	Guanidine Thiocyanate, molecular biology reagent	100 g 250 g 500 g
820899 820898 820900 820991 820992	Guanidine Thiocyanate, research grade	10 gm 100 gm 250 gm 500 gm 1 kg

References:

- *Molecular Cloning: A Laboratory Manual*, Maniatis, T., et al. (eds.), Cold Spring Harbor Laboratory Press: Cold Spring Harbor, NY, p. 7.5 (1989)
- Chirgwin, J.M., et al., "Isolation of biologically active ribonucleic acid from sources enriched in ribonuclease." *Biochemistry*, **v. 18**, 5294-5299 (1979).
- Chomczynski, P. and Sacchi, N., "Isolation of RNA." *Anal. Biochem.*, **v. 162**, 156 (1987).
- Cockle, S.A., "Resistance of lipophilin, a hydrophobic myelin protein, to denaturation by urea and guanidinium salts." *J. Biol. Chem.*, **v. 253**, 8019-8026 (1978).
- Grope, J.C. and Morse, D.E., "A new guanidine thiocyanate procedure for the isolation of full-length RNA templates for reverse transcription from tissues rich in RNase and proteoglycans." *Anal. Biochem.*, **v. 210**, 337 (1993).
- Johnson, W.C., "Two-dimensional polyacrylamide gel electrophoresis of envelope proteins of *Escherichia coli*." *Appl. Microbiol.*, **v. 29**, 405 (1975).
- Kaabache, T., et al., "Direct solution hybridization of guanidine thiocyanate-solubilized cells for quantitation of mRNAs in hepatocytes." *Anal. Biochem.*, **v. 232**, 225-230 (1995).
- McCandliss, R., et al., "Isolation and cell-free translation of human interferon mRNA from fibroblasts and leukocytes." *Methods Enzymol*, **v. 79**, 51-59 (1981).
- Turpen, T.H. and Griffith, O.M., "Rapid isolation of RNA by guanidinium thiocyanate/cesium chloride gradient method." *Biotechniques*, **v. 4**, 11-15 (1986).
- *Letters in Applied Microbiology*, **v. 8**, 151 (1989).