MP Biomedicals, LLC

29525 Fountain Parkway
Solon, Ohio 44139

Telephone: 440/337-1200
Toll Free: 800/854-0530
Fax: 440/337-1180
mailto: biotech@mpbio.com
web: http://www.mpbio.com

TECHNICAL INFORMATION

Catalog Number: 101084, 104907
Ribonuclease B

Molecular Weight: 14,700 ± 300 (2)

Synonym: RNase B

Source: Bovine pancreas

Unit Definition: One unit is the amount of enzymatic activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05% solution of yeast RNA at 25°C, pH 5.0.

Optimum pH: 7.0-7.5

Isoelectric Point: pH 9.45

Description: RNase B is a glycoprotein which possesses an amino acid composition indistinguishable from that of RNase A and which contains carbohydrate to the extent of 6 residues of mannose and 2 residues of N-acetylglucosamine per molecule. It is consequently considered to be a carbohydrate derivative of RNase A.[4]

Specificity: RNase B has the same specificity as RNase A toward both cyclic cytidylate and yeast RNA.[2]

Inhibitors: Inhibited by heavy metal ions and is competitively inhibited by DNA. The effect of denatured DNA is much greater than that of the native nucleic acid.[3]

References:

– *Kunitz*, *J. Biol. Chem.*, **v. 164**, 563 (1946).
– Plummer, T. and Hirs, C., "The isolation of ribonuclease B, a glycoprotein from bovine pancreatic juice." *J. Biol. Chem.*, **v. 238**, 1396 (1963).
– Sekine, H., Nakano, E. and Sakaguchi, K., "The interaction of DNA with pancreatic ribonuclease A." *Biochim. Biophys. Acta*, **v. 174**, 202 (1969).
– Tarentino, A., Plummer, J. and Maley, F., "Studies on the oligosaccharide sequence of ribonuclease B." *J. Biol. Chem.*, **v. 245**, 4150 (1970).