3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Albumin
from rat serum

Product Number **A 6414**
Storage Temperature 2-8 °C

Product Description

CAS Number: 9048-46-8
MW: 64.6 kDa[1]
pI: 5.7[2]

This product is isolated from the serum of Sprague Dawley rats and is treated to be essentially fatty acid free.[3] It is also essentially globulin-free. During preparation, the starting material is heated in the presence of sodium caprylate. This treatment causes the globulins to become insoluble and separate from the albumin.

Albumins are a group of simple proteins found in the body fluids and tissues of animals and in some plant seeds. Serum and plasma albumin is carbohydrate-free and comprises 55-62% of the protein present. Due to its high charge to mass ratio, albumin binds water, Ca^{2+}, Na^{+}, K^{+}, fatty acids, bilirubin, hormones, and drugs. The main biological function of albumin is to regulate the colloidal osmotic pressure of blood. Fatty acid-free albumins are used to solubilize lipids in tissue culture and are also used as blocking agents in Western blots or ELISA applications since they contain a free hydrophobic region. Globulin-free albumins are suitable for use in applications where no other proteins should be present (electrophoresis).

The sequence of rat serum albumin has been published.[4] Rat albumin contains 59 lysine residues in comparison to human albumin which has 58.[1] This product is prepared by alcohol fractionation (a modification of the Cohn procedure). The fraction is then treated to remove fatty acids and globulins, dialyzed against water, and lyophilized.

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (50 mg/ml).

References

1. The Plasma Proteins, 2nd Ed., Vol. 1, Putnam, F.W., Ed., Academic Press (New York, NY: 1975) p. 141.
2. Malamud, D., and Drysdale, J.W., Isoelectric points of proteins: a table. Anal. Biochem., **86**, 620-647 (1978).
3. Chen, R.F., Removal of fatty acids from serum albumin by charcoal treatment. J. Biol. Chem., **242**, 173-181 (1967).
4. Jagodzinski, L.L., et al., Sequence homology between RNAs encoding rat alpha-fetoprotein and rat serum albumin. Proc. Natl. Acad. Sci. USA, **78**, 3521-3525 (1981).

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