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 chicken egg white

Product Number **A 5503**
Storage Temperature 2-8 °C

Product Description

CAS Number: 9006-59-1
Extinction coefficient: $E^{1\%}$ = 6.9 to 7.6 (280 nm)[1]
pI: 4.54 (4.43-4.66)[2]; 4.9[3]
Synonym: Ovalbumin

This product has 10 mannose residues per mole of ovalbumin. It is not less than 98% pure by agarose gel electrophoresis.

Chicken egg albumin is the major protein constituent of egg whites. Chicken egg albumin is a phosphorylated-glycoprotein. From the amino acid sequence, the peptide portion of the molecule consists of 385 residues and has a molecular weight of 42.7 kDa.[4] This sequence completely agrees with the reported m-RNA (messenger RNA) sequence.[5] The carbohydrate and phosphate portions account for an additional 1428 and 160 grams per mole respectively, giving a total molecular weight of 44.3 kDa.[6]

Differential scanning calorimetry indicates the chicken egg albumin denatures at 84 °C.[7]

Ovalbumin can be used as a carrier protein to conjugate to synthetic peptides for use as an immunogen. It has the following amino acids: 20 Lys, 10 Tyr, 6 Cys, 14 Asp, and 33 Glu which make it suitable for conjugation.[8]

Precautions and Disclaimer

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

References

1. Practical Handbook of Biochemistry and Molecular Biology, Fasman, G., Ed., CRC Press (Boca Raton, FL: 1989), pp. 298-299.
2. Beeley, J.A., et al., Polyacrylamide gel isoelectric focusing of proteins: Determination of isoelectric points using an antimony electrode. Biochim. Biophys. Acta., **285**, 293-300 (1972).
3. Kidwai, S.A., et al, Effect of succinylation (3-carboxypropionylation) on the conformation and immunological activity of ovalbumin. Biochem. J., **155**, 171-180 (1976).
4. Nisbet, A.D., et al., The complete amino-acid sequence of hen ovalbumin. Eur. J. Biochem., **115**, 335-345 (1981).
5. McReynolds, L., et al., Sequence of chicken ovalbumin mRNA. Nature, **273**, 723-728 (1978).
6. Tai, T., et al., Structures of the carbohydrate moiety of ovalbumin glycopeptide III and the difference in specificity of endo-beta-N-acetylglucosaminidases CII and H. J. Biol. Chem., **252**, 6687-6694 (1977).
7. Donovan, J.W. and Mapes, C.K., A differential scanning calorimetric study of conversion of ovalbumin to s-ovalbumin in eggs. J. Sci. Food Agric., **27**, 197-204 (1976).
8. Antibodies: A Lab Manual, Harlow, E. and Lane, D., Cold Spring Harbor Laboratory Press (Cold Spring Harbor, NY: 1988), p.77.

(RBG)/FEB 11/02