

Product Information

Histone from calf thymus

Product Number **H 6005**
 Storage Temperature 2-8 °C

Product Description

CAS Number: 37244-51-2

Histones are a group of basic proteins which form reversible complexes with DNA. Histones are characterized by relatively high levels of lysine and arginine.⁵ The molecular weight of histones are approximately 11 to 21 kDa depending on the fraction.¹ Five different fractions have been isolated and characterized.^{1,2,3,4}

Special precautions should be taken when running electrophoresis gels of basic proteins such as histones. Normal SDS-PAGE conditions give anomalous results. An acid-urea-detergent system should be used and the polarity of the poles reversed.¹⁰ A method for the purification of the five main histone fractions from calf thymus by gel exclusion chromatography¹¹ has been published as well as other methods.¹²

	Molecular Weight	Bradbury⁴	Johns²
Lysine Rich	21.5 kDa	H1	f ₁
Slightly Lysine Rich	14.0 kDa	H2a	f _{2a}
Slightly Lysine Rich	13.8 kDa	H2b	f _{2b}
Arginine Rich	15.3 kDa	H3	f ₃
Arginine Rich	11.3 kDa	H4	f _{2a1}

Product No. H 6005 is prepared by sodium chloride extraction and fractionation, dissolving in acid HCl solution, precipitation from alkaline water:alcohol, 4:1, washes with acetone, drying, and desiccation.⁹

The lysine rich fraction (H1) is thought to act as a link between "beads" (nu bodies) on the chromatin chain.⁵ A review of histones⁶ and their characterization and amino acid sequences⁷ have been published. Histone preparations offered by Sigma include: Product No. H 6005 is a heterogenous mixture of all the histone fractions prepared slightly differently from Product No. H 7755.

Product No. H 7755 is a heterogenous mixture of all the histone fractions prepared slightly differently from Product No. H 6005.

Product No. H 9250 is unfractionated whole histone. Product No. H 5505 is an isolated⁸ lysine rich fraction of mainly subfraction f₁ in character.

Product No. H 4524 is an isolated⁸ lysine rich fraction of mainly subfraction f₁ in character. It is tested and found suitable as a substrate for protein kinase C.

Product No. H 4255 is a slightly lysine rich fraction with the predominant form similar to subfraction f_{2b}.

Product No. H 4380 is an arginine rich fraction with the predominant form similar to subfraction f₃.

Precautions and Disclaimer

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

Preparation Instructions

Histones are soluble in water (10 mg/ml) or 0.5 N HCl (10 mg/ml), yielding a clear to hazy solution depending on the fraction. They are soluble in 6 M urea (4-10 mg/ml), but this will denature the histones.

Histones dissolved or suspended in water should be stable for at least 6 months when frozen in single use aliquots.

References

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