



Product Information

Zein from maize

Product Number **Z 3625**
Store at Room Temperature

Product Description

CAS Number: 9010-66-6

Zein is a prolamine; an alcohol-soluble protein present in amounts of 2.5-10% (dry basis) in corn. Zein is a common component used in the manufacture of plastics, paper coatings, adhesives, substitutes for shellac, laminated board, and solid color printing films.

Zeins are the main storage proteins found in the seeds of maize. Following protein translation, the zeins are stored in the rough endoplasmic reticulum (ER)-derived protein bodies. The accumulation of zein in these ER-derived protein bodies results in the formation of the endosperm - the food storage body of seeds.

Currently, there are four classes of zein: α , β , γ , and δ . These classes are expressed sequentially in maize and are found to interact with each other for stability. Zein from corn was reported to be approximately 35% α -zein, which includes 2 prominent bands of 22 and 24 kDa. β -zein fails to enter an SDS-PAGE gel without reduction. Reducing SDS-PAGE analysis shows that β -zein has 3 major bands of 24, 22, and 14 kDa.¹ The amino acid sequences have been published.²

Precautions and Disclaimer

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

Preparation Instructions

Zein is soluble in aqueous alcohols, glycols, ethyl ether, furfuryl alcohol, tetrahydrofurfuryl alcohol, and aqueous alkaline solutions of pH 11.5 or greater. Zein is insoluble in water, acetone, and anhydrous alcohols (except methanol).

Storage/Stability

Zein is rapidly denatured in solution and becomes insoluble.

References

1. Esen, A., Separation of alcohol-soluble proteins (zeins) from maize into three fractions by differential solubility. *Plant Physiol.*, **80**, 623-627 (1986).
2. Phillips, R. L., and McClure, B. A., Elevated protein-bound methionine in seeds of a maize line resistant to lysine plus threonine. *Cereal Chem.*, **62**, 213-218 (1985).

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