

Product Information

Casein from bovine milk

C5890

Product Description

CAS Registry Number: 9000-71-9

Casein is a phosphoprotein found in milk. Casein has numerous experimental applications, including:

- Use as a blocking agent in immunochemistry¹
- Recovery of enzyme activity from SDS extracted samples
- As a substrate for protease and kinase assays²

The major casein subunits may be distinguished by electrophoresis and are designated as α -, β -, γ -, and κ -caseins, in order of decreasing mobility at pH 7.0.³ The approximate casein composition of milk is as follows, in terms of grams per liter (g/L):

- α -s1 (12-15 g/L)
- α -s2 (3-4 g/L)
- β (9-11 g/L)
- κ (2-4 g/L)

The casein subunits vary primarily in molecular weight, isoelectric point, and level of phosphorylation. The following table lists these differences.^{4,5}

Subunit	MW (kDa)	pI	Phosphates /mole	E1% (280 nm)
α -s1	22 – 23.7	4.2 – 4.7	8 – 10	10.0 – 10.1
α -s2	25	---	10 – 13	---
β	24	4.6 – 5.1	4 – 5	4.5 – 4.7
κ	19	4.1 – 5.8	1	10.5

The nomenclature for proteins in bovine milk has been published.⁴

Several theses⁶ and dissertations⁷⁻¹² have cited use of product C5890 in their research protocols.

Product

This product has been treated to remove almost all free phosphate from the starting material.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

This product may be stored at room temperature.

Preparation Instructions

This product can be suspended in 1 M NaOH (50 mg/mL), yielding a turbid, faint yellow solution.

References

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