

## Product Information

### Casein solution, 5% from bovine milk

Product Number **C4765**  
Storage Temperature 2–8 °C

CAS RN (for casein) 9000-71-9

#### Product Description

This product is a sterile-filtered, hydrolyzed, and partially dephosphorylated product in a sodium chloride solution (50 mg/ml). It is suitable for use as a substrate for 3',5'-cyclic-AMP dependent protein kinase.

Casein is a phosphoprotein found in milk. This protein has numerous experimental applications including use as a blocking agent in immunochemistry, recovery of enzyme activity from SDS extracted samples, and as a substrate for protease and kinase assays. The major casein subunits may be distinguished by electrophoresis and are designated as  $\alpha$ -,  $\beta$ -,  $\gamma$ -, and  $\kappa$ -caseins in order of decreasing mobility at pH 7.0.<sup>1</sup> The approximate casein composition of milk is (g/L):  $\alpha$ -s1 (12-15);  $\alpha$ -s2 (3-4);  $\beta$  (9-11); and  $\kappa$  (2-4).

The casein subunits vary primarily in molecular weight, isoelectric point, and level of phosphorylation. The following table lists these differences.<sup>2,3</sup>

Subunit	MW (kDa)	pI	Phosphates/mole	E <sup>1%</sup> (280 nm)
$\alpha$ -s1	22-23.7	4.2-4.7	8 -10	10.0-10.1
$\alpha$ -s2	25	---	10 -13	---
$\beta$	24	4.6 – 5.1	4 - 5	4.5 – 4.7
$\kappa$	19	4.1 – 5.8	1	10.5

The nomenclature for proteins in bovine milk has been published.<sup>2</sup>

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### References

1. The Merck Index 11th ed., Entry# 1892.
2. J. Dairy Sci., **67**, 1599-1631 (1984).
3. J. Dairy Sci., **68**, 2195-2205 (1985).

MWM,NSB,RBG,MAM 01/06-1

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