

# Active Native Bovine Casein Protein

**Cat. No.** Casein-01B    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Product Overview</b> | <p>Native bovine casein purified from milk.</p> <p>CAS Number: 9000-71-9</p> <p>EC Number: 232-555-1</p> <p>MDL number: MFCD00081481</p> <p>NACRES: NA.61</p> <p>InChI key</p> <p>BECPQYXYKAMYBN-UHFFFAOYSA-N</p>                                                                                                                                                                                                                                                  |
| <b>Species</b>          | Bovine                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>           | Milk                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ProteinLength</b>    | 232-555 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>      | <p>Casein from bovine milk is a phosphoprotein. There are four main types of casein which make up approximately 80% of the total protein in bovine milk: <math>\alpha</math>-s1 Casein, <math>\alpha</math>-s2 Casein, <math>\beta</math>-Casein, and <math>\kappa</math>-Casein. Casein is proposed to be the main protective constituent in milk and is generally recognized as safe (GRAS) due to its naturally biocompatible and biodegradable properties.</p> |
| <b>Form</b>             | Powder                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Bio-activity</b>     | <p>Casein finds application in nutraceuticals and various formulations such as hydrogels, films, nano micelles, and nanoparticles due to its properties such as emulsification, foaming, gelation, water-holding capacity, and interaction with bioactive molecules</p>                                                                                                                                                                                            |

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through functional groups. This protein is easily available, and it protects drugs from enzymatic degradation and nontoxicity so, casein is potentially used in oral delivery systems.

Partial gastrointestinal digestion of casein is a rich source of bioactive peptides, such as  $\beta$ -casomorphin. However, bovine casein is not homogeneous; variants A1 and B do lead to production of  $\beta$ -casomorphin 7 production, while A2 does not.

**Applications**

Casein from bovine milk has been used as:

1. a blocking agent in immunochemistry
2. a substrate to determine the casinolytic activity in disintegrin and Cerastes cerastes venom
3. as a fining agent to test its effect on white wine protein stabilization

**GENE INFORMATION**

**Official Symbol** Casein

**Synonyms** Casein; Alpha-S1-casein; CSN1S1; Alpha-S2-casein; CSN1S2; Beta-casein; CSN2

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