Technical Bulletin

ANTI-β-Lactoglobulin antibody, Mouse monoclonal

Clone BTS-10, purified from hybridoma cell culture

SAB4200881

Product Description

Monoclonal Anti-β-Lactoglobulin (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. β-Lactoglobulin from bovine milk were used as the immunogen. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2). The antibody is purified from culture supernatant of hybridoma cells.

The antibody is recommended to be used in various immunological techniques, including immunoblot and ELISA. Monoclonal Anti-β-Lactoglobulin is immunospecific to β-Lactoglobulin as determined by an immunoblot assay. Detection of the β-Lactoglobulin band by immunoblotting is specifically inhibited by the immunogen.

β-lactoglobulin also known as Bos d 5 allergen, can be detected in the mammary gland and highly expressive in the breasts. Bovine β-lactoglobulin (Beta-LG) is the major whey protein of cow's milk[1]. This protein, which has 162 residues in its mature form, exists as a dimer in solution, where the dimer has a molecular weight of approximately 36 kDa [2]. This protein is extensively a primary component that binds retinol [3].

Beta-LG has a calyx fold, typical of the lipocalin protein superfamily, and shares with other lipocalins the ability to bind a variety of small hydrophobic molecules in vitro [4]. β-Lactoglobulins are widely distributed. While some Beta-LG's are monomeric, for example, horse, pig, and cat, most Beta-LG's occur as dimers, especially, in the order of hoofed mammals. The ruminant animals have dimeric Beta-LG's, which show very high sequence identity to bovine Beta-LG. Within a species, Beta-LG often exists in several genetic variants. The cow (Bos taurus), for example, has at least nine variants, labeled as A, B, C, D, E, H, I, J and W. The more common bovine Beta-LG variants (A, B, and C) respond differently to heat, a property of technological significance in the industrial processing of milk and for the characteristics of milk products [5]. Bovine Beta-LG is stable at low pH, is resistant to proteolysis [6]. Several variants have been identified, the main ones in the cow being labelled A and B [7]. Because of its abundance and ease of purification, it has been subjected to a wide range of biophysical studies.

β-lactoglobulin is of direct interest to the food industry since its properties can variously be advantageous or disadvantageous in dairy products and processing. β-lactoglobulin is considered as a major milk allergen.

Reagents

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.3 mg/mL.

Precautions and Disclaimer

This product is 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

For continuous use store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting:

A working concentration of 0.25-0.5 ug/mL is recommended using lysate from β-Lactoglobulin from bovine milk (Cat. No. L3908).

Recommendation: For immunoblotting, we advise diluting the antibody in PBS containing 0.5% non-fat dry milk and 0.05% Tween™ 20.

ELISA:

A working concentration of 0.25-0.5 ug/mL is recommended using β-Lactoglobulin from bovine milk (Cat.No. L3908) for coating.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References:

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