

α -Lactalbumin from Human Milk

np001044

Storage -20°C. Avoid freeze/thaw cycle.

Introduction

α -Lactalbumin is an important whey protein in cow's milk, and is also present in the milk of many other mammalian species. In primates, alpha-lactalbumin expression is upregulated in response to the hormone prolactin and increases the production of lactose. α -Lactalbumin forms the regulatory subunit of the lactose synthase (LS) heterodimer and β -1,4-galactosyltransferase (beta4Gal-T1) forms the catalytic component. Together, these proteins enable LS to produce lactose by transferring galactose moieties to glucose. As a monomer, alpha-lactalbumin strongly binds calcium and zinc ions and may possess bactericidal or antitumor activity. When formed into a complex with Gal-T1, a galactosyltransferase, α -lactalbumin, enhances the enzyme's affinity for glucose by about 1000 times, and inhibits the ability to polymerize multiple galactose units. This gives rise to a pathway for forming lactose by converting Gal-TI to Lactose synthase.

Product Datasheet

Protein Determination: Extinction Coefficient (E) = 1.82 (0.1% at 280 nm, 1 cm pathway).

Testing: Donor material is obtained from suppliers that perform a comprehensive infectious disease screening panel. Donor milk is screened by the supplier and confirmed non-reactive for HIV-1/2, Hepatitis B (HBsAg), and Hepatitis C (HCV). Records of testing are maintained and traceable upon request.