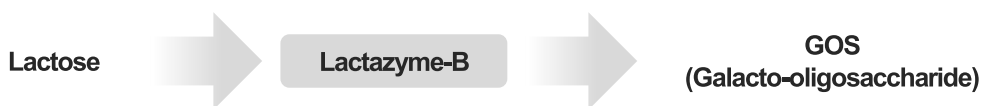


Lactazyme-B™

Lactase

Lactazyme-B™ is a neutral lactase (EC 3.2.1.23) preparation derived from *Bacillus circulans*. The enzyme catalyzes the hydrolysis of lactose and the galactosyl transfer reaction. In the galactosyl transfer reaction, it is advantageous to react at high temperature because of the low solubility of lactose.

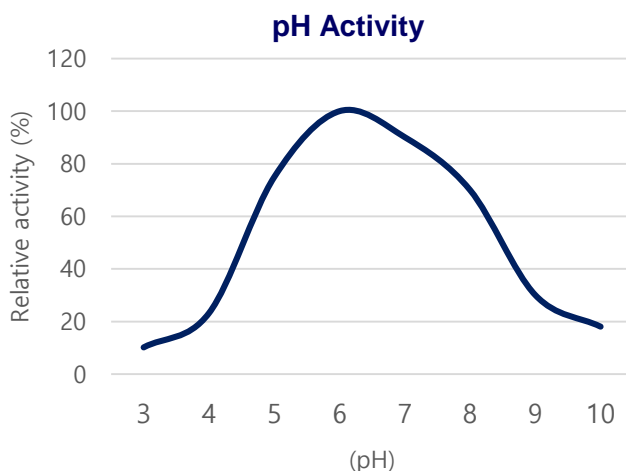
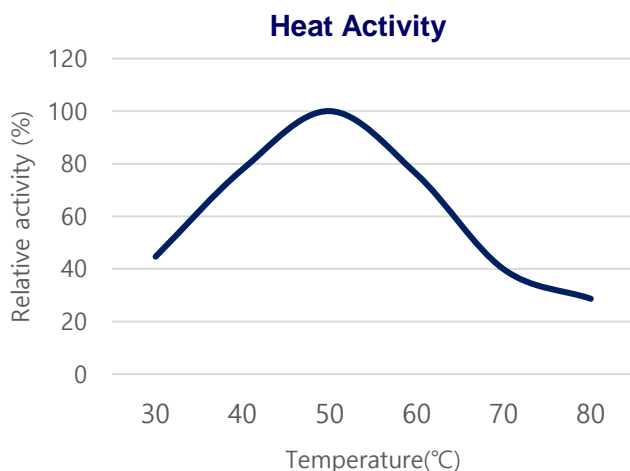
GOS is primarily used for main ingredient of premium powdered milk, and market needs of GOS addition amount is increasing annually by more than 20%. GOS is also used for dairy products, food and beverages, etc.



◆ Benefits of GOS (Galacto-oligosaccharide)

- Immunity enhancing materials within breast milk
- Infection prevention from pathogen and germ growth inhibition
- Prevention from allergies, atopic dermatitis

◆ Activity test for temperature and pH



◆ Recommendation of operational condition

- Stable pH range: pH 5.5 ~ 7.5
- Optimum pH: pH 6.0
- Temperature stability: stable under 50 °C
- Optimum temperature: 50 °C

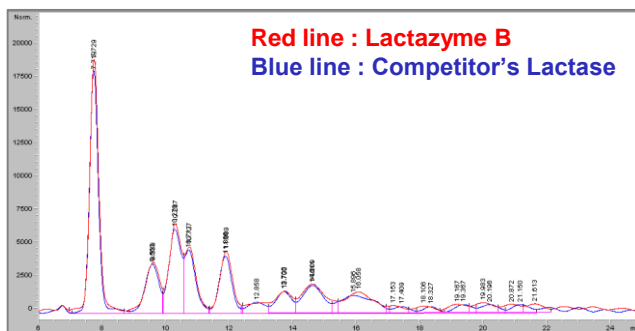
◆ Characteristics

- Source: *Bacillus circulans*
- Activity: > 4,000 unit/g
- Unit definition (oNPG method) : One unit is defined as the amount of enzyme which will liberate 1 μ mol of oNP per minute from oNPG at 50 $^{\circ}$ C, pH 6.0.
- Appearance: Yellow ~ light brown, powder

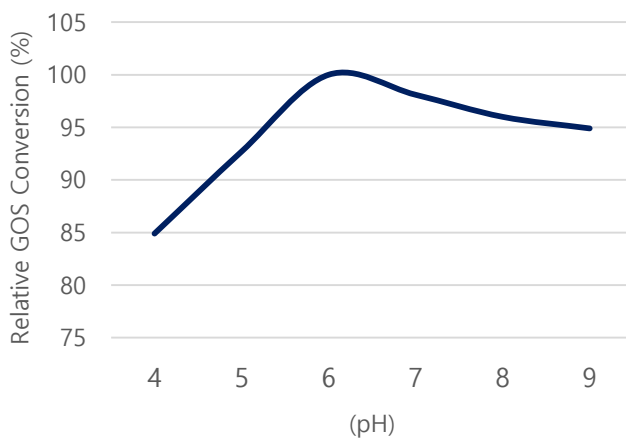
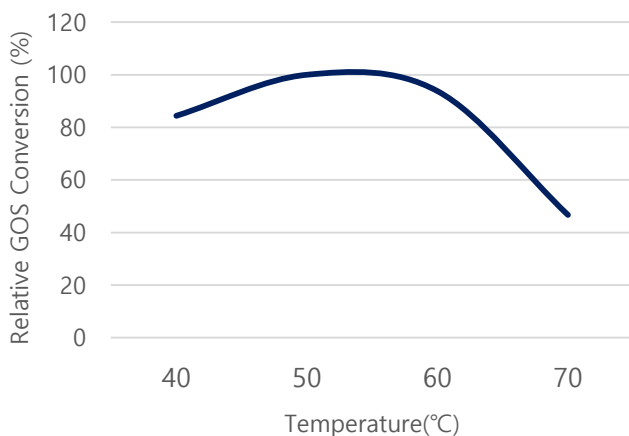
◆ Conversion rate comparison

- When compared with competitor's enzyme, production yield for GOS is similar and composition rate of remaining lactose is lower.
- Both Lactazyme-B™ and competitor's lactase produce GOS in 58~65% yields from 50% lactose solution, and less than 10% of lactose remains after reaction.

HPLC GOS Profiles



◆ GOS conversion properties



◆ Package and Storage

- Package unit: 5 kg, powder
- Storage: store under cool and dry condition

◆ Expiry date

- 12 months