abcam

ab206546

Anti-beta Galactosidase antibody [13R4]

Recombinant

Key facts

Isotype	IgG4
Host species	Human
Storage buffer	Preservative: 0.02% Proclin 300 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	13R4
Purification technique	Affinity purification Protein A
Light chain type	lambda
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

Species	Escherichia coli
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Expected

Species	Escherichia coli
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information lacZ

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Beta Galactosidase often called "β-gal" "b-galactosidase" or "b-gal" serves as an important enzyme that hydrolyzes β-galactosides into monosaccharides. It breaks down lactose into glucose and galactose which are easier to absorb. Beta-galactosidase expresses in many organisms such as *E. coli* where it is a well-known component of the lac operon. Its molecular weight in *E. coli* is approximately 116 kDa. The enzyme also appears in human tissues but is synthesized and regulated differently compared to bacterial systems.
Biological function summary	This enzyme is involved in the metabolism of galactose a critical aspect of cellular energy production. It can participate in various metabolic pathways converting complex carbohydrates into simpler sugars. In bacteria beta-galactosidase belongs to a protein complex controlled by the lac operon regulating lactose metabolism. In humans the enzyme takes part in lysosomal functions contributing

	to the degradation of glycoproteins and glycolipids therefore supporting normal cellular processes.
Pathways	Beta-galactosidase plays an important role in the lactose metabolism pathway. In *E. coli* it coheres with the enzymes of the lac system like lactose permease and transacetylase to facilitate lactose utilization. In human biology it participates in the lysosomal degradation pathway. Its function is associated with proteins such as galactosylceramidase which also break down galactolipids demonstrating its interaction in broader metabolic networks.
Associated diseases and disorders	Deficiencies or malfunctions in beta-galactosidase lead to metabolic conditions like Galactosialidosis and Morquio syndrome Type B. These are lysosomal storage disorders caused by a lack of enzyme activity leading to accumulation of partially degraded macromolecules. The enzyme's impaired function connects with other proteins such as protective protein cathepsin A in the case of Galactosialidosis causing complex clinical symptoms through disrupted protein interactions and pathways.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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