

## Product Information

### Anti- $\beta$ -Galactosidase antibody, Mouse monoclonal Clone GAL-13, purified from hybridoma cell culture

Product Number **SAB4200805**

#### Product Description

Monoclonal Anti- $\beta$ -Galactosidase (mouse IgG1 isotype) is derived from the GAL-13 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with  $\beta$ -Galactosidase purified from *E. coli*. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Product Number ISO2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti- $\beta$ -Galactosidase recognizes soluble  $\beta$ -galactosidase and does not inhibit the enzymatic activity. The antibody reacts with the native enzyme and does not recognize denatured or reduced  $\beta$ -galactosidase. The antibody is recommended to use in various immunological techniques, including ELISA, immunofluorescence,<sup>1-2</sup> and immunohistology.<sup>3</sup>

$\beta$ -galactosidases have been obtained from microorganisms (fungi, bacteria, and yeasts), plants, animals cells, and from recombinant sources. This enzyme has two main applications; the removal of lactose from milk products for lactose intolerant people and the production of galactosylated products.<sup>4</sup>

Monoclonal Anti- $\beta$ -Galactosidase may be used for the amplification of the signal obtained with primary mouse monoclonal antibodies used in various immunochemical techniques such as ELISA, immunohistochemistry, and immunoblotting, both by stepwise procedure or the preparation of a  $\beta$ -galactosidase anti- $\beta$ -galactosidase (BGABG) complex. This may also be used together with other enzyme labeled antibodies, such as peroxidase or alkaline phosphatase for double labeling and simple evaluation due to high color contrast. The Anti- $\beta$ -Galactosidase antibody maybe useful tool for immunoenzymatic staining of blood and bone marrow smears or tissue sections.

In addition, this product may be used as a primary antibody for the detection and purification of recombinant fusion hybrid proteins, which contain  $\beta$ -galactosidase (lacZ) in the cloning vector. As this fusion protein is expressed in equimolar ratio to  $\beta$ -galactosidase, assays that determine the presence of the enzyme by using antibodies reacting specifically with  $\beta$ -galactosidase may be used as a means to identify the appropriate gene products in cDNA expression libraries.<sup>5</sup>

These antibodies allow a simple isolation of fusion proteins directly from crude bacterial lysates, using immunoaffinity chromatography<sup>6-8</sup> and immuno-precipitation.<sup>5</sup>  $\beta$ -galactosidase also has the advantage of detecting the enzymatic activity despite the thick Gram-positive bacterial cellular membrane.<sup>9</sup>

#### Reagent

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

Antibody Concentration: ~1.0 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. 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

Indirect ELISA: a working concentration of 0.5-1 µg/mL is recommended using anti-Mouse antibody for coating, primary Anti-Beta-GAL antibody followed by addition of β-galactosidase enzyme from *E. coli* and 2-Nitrophenyl β-D-galactopyranoside as substrate.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

### References

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SG,DR,OKF,MAM 06/18-1