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Product Information

Anti-β-Glucuronidase (C-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **G5545**

Synonym: Anti-GUS

Product Description

Anti-β-Glucuronidase (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 589-603 at the C-terminus of *E. coli* GUS, conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-β-Glucuronidase (C-terminal) recognizes bacterial GUS expressed in transgenic tobacco plants. Applications include the detection of GUS by immuno-blotting (60 kDa). Staining of the GUS band in immuno-blotting is specifically inhibited by the immunizing GUS peptide (*E. coli*, amino acids 589-603).

Reporter genes are widely used for studying the expression of foreign genes in transformed plant tissues. Using appropriate promoter-reporter gene constructs, this technique allows an independent verification of the transformed status of tissues growing on media containing selective antibiotics or herbicides. In addition, it serves as a principal means to follow gene transfer and monitor genetic transformation of plant species. Several screenable markers are available including β-glucuronidase (GUS), β-galactosidase (β-GAL), chloramphenicol acetyl transferase (CAT), green fluorescent protein (GFP) and luciferase. *E. coli* GUS has been extensively used to monitor transgene delivery to plant tissue. Encoded by the *E. coli gus* gene (also referred to as uidA), GUS protein (60 kDa) is an hydrolase that catalyses the cleavage of a variety of β-glucuronide derivatives available for colorimetric, fluorimetric and histochemical assays.[1-3] Several features make the *gus* gene superior as a reporter gene for plant studies and in the production of genetically engineered crops.[4-9]

Many plants lack detectable endogenous glucuronidase activity, resulting in essentially no background. In addition, GUS activity is easily assayed *in vitro* and can withstand fixation, enabling histochemical localization in cells and tissue sections. However, one of the major limitations of the gus reporter gene system is that the histochemical GUS assay system is destructive for the plant tissue, and therefore it is not suitable for direct visual selection of transformed plants.[10-11] Antibodies specific for GUS are useful tools for detecting GUS gene product in transformed plants.

Reagent

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

Antibody Concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1-2 µg/mL is recommended using purified GUS from *E. coli*.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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