Product Information

Anti-IDH1 (R132H) antibody, Mouse monoclonal clone HMab-1, purified from hybridoma cell culture

Product Number SAB4200548

Product Description
Anti-IDH1 (R132H) antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma HMab1 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a peptide corresponding to mutation R132H of human IDH1 (GeneID: 3417). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-IDH1 (R132H) recognizes only the R132H mutation of human IDH1 (R132H) and does not cross react with other mutations. The product may be used in several immunochemical techniques including immunoblotting (~ 43 kDa) and immunohistochemistry.

Eukaryotic cells express three forms of isocitrate dehydrogenase (IDH). These enzymes catalyze the oxidative decarboxylation of isocitrate into α-keto-glutarate (αKG) utilizing either NAD or NADP as co-substrates. A member of this family, IDH1, is the human cytoplasmic NADP-specific enzyme. Its subcellular localization was shown to be in both peroxisomes and the cytoplasm. Although the function and structure of the protein has been well characterized, mutations in the gene have only recently been implicated in cancer after a genome-wide mutation study of glioblastomas, acute myeloid leukemias (AML) and chondrosarcomas. Mutations in IDH1 are specific to Arg132 (R132) and endow them with the function of generating 2-hydroxyglutarate (2HG) instead of αKG. This product alters gene transcription through effects on DNA and histone methylation. Several IDH1 mutations exist, including R132H, R132C, R132S, R132G and R132L. Each may result in different tumor type with varied malignant progression. The most frequent known mutation (>90%) is the alteration of arginine to histidine (R132H). Hence, antibodies that recognize the IDH1R132H mutation can be useful for the diagnosis of mutation-bearing tumors like gliomas.

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 Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability
For extended storage, freeze at −20 °C 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 dilution samples should be discarded if not used within 12 hours.

Product Profile
Immunoblotting: a working concentration of 4-8 μg/mL is recommended using extract of HEK-293T cells overexpressing IDH1(R132H).

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

References

DS,PHC 12/16-1