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Product Information

Anti-PKM2 (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200105**

Product Description

Anti-PKM2 (C-terminal) is developed in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human PKM2 (GeneID 5315) conjugated to KLH. The corresponding sequence is identical in both human PK isoforms, M1 and M2, and in mouse and rat PKM2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PKM2 (C-terminal) specifically recognizes human, rat, and mouse PKM2. The antibody can be used in several immunochemical techniques including immunoblotting (~60 kDa), immunoprecipitation, and immunofluorescence. Detection of the PKM2 band by immunoblotting is specifically inhibited by the PKM2 immunizing peptide.

Pyruvate kinase (PK) is a key enzyme in the glycolytic pathway. PKs exist in mammals as four isoforms, L, R, M1, and M2. The L and R isoforms are expressed in liver and red blood cells. The M1 isoform is expressed in most adult tissues; whereas, the M2 isoform, an alternatively spliced variant of M1, is specifically expressed during embryonic development.[1,2] PKM1 is the major isoform expressed in skeletal, heart, and brain tissue, and progressively replaces the M2 isoform in these tissues during development. Tumor cells have been reported to exclusively overexpress the embryonic M2 isoform.[3,4] The tumor metabolome is characterized by a high glycolytic turnover rate and tumor cells are able to proliferate under conditions of aerobic glycolysis, known as the Warburg effect. Knockdown of the M2 isoform in human cancer cell lines and its replacement by the M1 isoform has been shown to lead to reversal of the Warburg effect and reduced ability to form tumors in mouse xenografts.[2] Phosphorylation of the M2 isoform at Tyr^{105} inhibits its activity and is common in human cancers, suggesting Tyr^{105} is a critical metabolic switch in cancer cells that promotes tumorigenesis.[5]

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: ~1.5 mg/mL

Precautions and Disclaimer

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

Store at –20 °C. For continuous use, the product may be stored at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also 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 L8 and C2C12 cell lysates.

Immunoprecipitation: A working antibody amount of 2–4 μg is recommended using A549 cell lysates.

Immunofluorescence: A working antibody concentration of 2–4 μg/mL is recommended using HeLa cells.

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

References

1. Takenaka, M., et al., *Eur. J. Biochem.*, **198**, 101-106 (1991).
2. Christofk, H.R., et al., *Nature*, **452**, 230-234 (2008).
3. Mazurek, S., et al., *Semin. Cancer Biol.*, **15**, 300-308 (2005).
4. Dombrauckas, J.D., et al., *Biochemistry*, **44**, 9417-9429 (2005).
5. Hitosugi, T., et al., *Sci. Signal.*, **2**, ra73 (2009).

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