Product Information

Anti-PSTAIR antibody, Mouse monoclonal

Clone PSTAIR, purified from hybridoma cell culture

SAB4200861

Product Description

Monoclonal Anti-PSTAIR antibody (mouse IgG1 isotype) is derived from the PSTAIR hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with synthetic peptide containing the PSTAIR sequence, conjugated to BSA as immunogen.[1] The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO-2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-PSTAIR antibody specifically recognizes the evolutionary conserved PSTAIR sequence. The antibody recognizes 31-34 kDa proteins (1-4 bands) in immunoblotting.[1-7] Cross-reactivity has been observed with human, monkey, mouse,[1,8] Japanese quail,[1,3] fish (goldfish,[4-7] carp,[1,5,7] eel,[1] starfish,[1] and amago salmon[1]), Xenopus,[1] cliliates,[1] and plants (lily,[1,2] and onion[1]). The antibody may be used for Immunoblotting based assays.

Cell division is a fundamental biological process, consisting of the splitting of the cell and its genetic material into two daughter cells. Mitosis is a cell division process that results in the formation of two new nuclei, each having the same number of chromosomes as the parental nucleus. During the cell cycle of most somatic cells, DNA synthesis (S-phase) and mitosis (M-phase) are separated by two "growth" stages (G1 and G2) of varying duration. A typical eukaryotic cell sequentially passes through G1, S, G2, and M and back into G1 during each single cycle.[9] Maturation-promoting factor (MPF), originally identified during meiosis in frog oocytes, is a cytoplasmic factor, which is highly conserved among a wide range of species. It plays a key role in the progression of the cell cycle from interphase (G2) to metaphase (M), in both meiosis and mitosis.

The cell cycle can be considered as a cyclin-dependent kinases (CDKs) cycle, which is controlled by biochemical modifications such as phosphorylation of CDKs and formation of complex(es) with other proteins, including the cyclins.[10] CDKs are key regulators of cell cycle progression.[11,12] and are closely related in size (35-40 kDa) and sequence (> 40% identity). Each CDK interacts with a specific subset of cyclins which activate them by enabling their phosphorylation at specific residues.

In the fission yeast Shizosaccharomyces pombe, a single major CDK has been identified (cdc2) while in human cells, the growing list of CDKs now includes also cdc2 (Cdk1), and Cdk2 to Cdk7. The typical CDK catalytic subunit contains a 300 amino acid catalytic core that is completely inactive in monomeric and unphosphorylated state.[13,14,15] CDKs are constitutively expressed throughout the cell cycle and are activated and inactivated by specific kinases and phosphatases.[15,16] In every eukaryote examined, CDKs contain an evolutionary conserved 16 amino acid sequence called PSTAIR (EGVPSTAIREISLLKE) which distinguishes them from other protein kinases. The PSTAIR motif is involved in the complex formation with cyclins. The availability of monoclonal antibody reacting specifically with the PSTAIR sequence[1,17] enables the subcellular detection and localization of the various CDKs and examination of substrate interactions, in a variety of organisms.

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 research 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

Immunoblotting: a working concentration of 0.5-1.0 µg/mL is recommended using whole extracts of COS7 cells.

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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