SANTA CRUZ BIOTECHNOLOGY, INC.

p-Tyr (P-Tyr-01): sc-51688

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The critical involvement of protein tyrosine kinases in signal transduction pathways is well established. These kinases can be divided into two major groups, including the receptor tyrosine kinases and the non-receptor type kinases, of which the Src kinases are the prototypical members. Src kinases are generally associated with the internal portion of the plasma membrane and may function as signal transducers in association with surface receptors that lack an intracellular catalytic domain. The second major group of tyrosine kinases are the receptor tyrosine kinases. Over fifty members of this group of these receptors, belonging to fourteen families, have been identified to date. Ligand-induced tyrosine phosphorylation of such receptors induces receptor dimerization and subsequent autophosphorylation of specific individual phosphotyrosine residues located within their cytoplasmic domains, which serve as binding sites that interact with specific cytoplasmic molecules. Monoclonal antibodies to phosphotyrosine are valuable for the characterization and purification of proteins containing phosphotyrosyl residues and are used extensively for these purposes.

REFERENCES

1. Friedman, B., et al. 1984. Tumor promoters block tyrosine specific phosphorylation of epidermal growth factor receptor. Proc. Natl. Acad. Sci. USA 81: 3034-3038.
2. Frackelton, A.R., Jr., 1985. Characterization of tyrosine-phosphorylated proteins in Abelson MLV-transformed cells: studies with an anti-phosphotyrosine monoclonal antibody. Cancer Cells 3: 339-345.
3. Foulkes, J.G., et al. 1985. Purification and characterization of a protein tyrosine kinase encoded by the Abelson murine leukemia virus. J. Biol. Chem. 260: 8070-8077.
4. Daniels, T.O., et al. 1985. Purification of the platelet-derived growth factor receptor using an anti-phosphotyrosine antibody. Proc. Natl. Acad. Sci. USA 82: 2684-2687.
5. Fantl, W.J., et al. 1993. Signalling by receptor tyrosine kinases. Annu. Rev. Biochem. 62: 453-481.
6. Lemmon, M.A., et al. 1994. Regulation of signal transduction and signal diversity by receptor oligomerization. Trends Biochem. Sci. 19: 459-463.
7. Cebecauer, M., et al. 1998. Incorporation of leucocyte GPI-anchored proteins into lipid-rich membrane domains of COS-7 cells. Biochem. Biophys. Res. Commun. 243: 706-710.
8. Brdicka, T., et al. 1998. T cell receptor signalling results in rapid tyrosine phosphorylation of the linker protein LAT present in detergent-resistant membrane microdomains. Biochem. Biophys. Res. Commun. 248: 356-360.

SOURCE

p-Tyr (P-Tyr-01) is a mouse monoclonal antibody raised against phosphotyrosine conjugated to BSA.

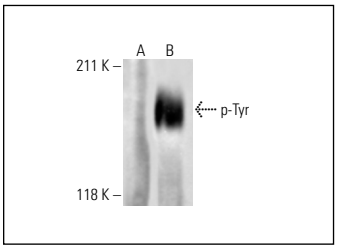
PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-Tyr (P-Tyr-01) is recommended for detection of tyrosine phosphorylation in activated cells by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

DATA



p-Tyr (P-Tyr-01): sc-51688. Western blot analysis of Tyr phosphorylation in untreated A-431 (**A**) and EGF treated A-431 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kua, H.Y., et al. 2012. c-Abl promotes osteoblast expansion by differentially regulating canonical and non-canonical BMP pathways and $p16^{INK4a}$ expression. Nat. Cell Biol. 14: 727-737.
2. Li, Y., et al. 2017. A novel epigenetic AML1-ETO/THAP10/miR-383 mini-circuitry contributes to t(8;21) leukaemogenesis. EMBO Mol. Med. 9: 933-949.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **p-Tyr (PY99): sc-7020** for p-Tyr antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.