SANTA CRUZ BIOTECHNOLOGY, INC.

p-Tyr (2C8): sc-81529

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. More than 50 members of this group of receptors, belonging to 14 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

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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., 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. Daniel, 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 and protein tyrosine kinases 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 (2C8) is a mouse monoclonal antibody raised against a synthetic tyrosine-phosphorylated peptide.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-Tyr (2C8) is recommended for detection of phosphotyrosine-containing proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

SELECT PRODUCT CITATIONS

1. Montgomery, B.C., et al. 2009. Cell surface expression of channel catfish leukocyte immune-type receptors (IpLITRs) and recruitment of both Src homology 2 domain-containing protein tyrosine phosphatase (SHP)-1 and SHP-2. Dev. Comp. Immunol. 33: 570-582.
2. Hartmann, C., et al. 2010. Peptide mimotopes recognized by antibodies cetuximab and matuzumab induce a functionally equivalent anti-EGFR immune response. Oncogene 29: 4517-4527.
3. Nadal-Casellas, A., et al. 2012. Sex-dependent differences in rat hepatic lipid accumulation and Insulin sensitivity in response to diet-induced obesity. Biochem. Cell Biol. 90: 164-172.
4. Debruyne, D.N., et al. 2016. ALK inhibitor resistance in ALK^{F1174L}-driven neuroblastoma is associated with AXL activation and induction of EMT. Oncogene 35: 3681-3691.
5. Powley, I.R., et al. 2016. Caspase-8 tyrosine-380 phosphorylation inhibits CD95 DISC function by preventing procaspase-8 maturation and cycling within the complex. Oncogene 35: 5629-5640.
6. Jing, X., et al. 2018. HBsAg/β2GPI activates the NFκB pathway via the TLR4/MyD88/IκBα axis in hepatocellular carcinoma. Oncol. Rep. 40: 1035-1045.
7. Guo, F., et al. 2020. Recent BCR stimulation induces a negative autoregulatory loop via FBXO10 mediated degradation of HGAL. Leukemia 34: 553-566.

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.