SANTA CRUZ BIOTECHNOLOGY, INC.

p-Tyr (PY20): sc-508

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 50 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. 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.

SOURCE

p-Tyr (PY20) is a mouse monoclonal antibody raised against p-Tyr.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-Tyr (PY20) is available conjugated to agarose (sc-508 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-508 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-508 PE), fluorescein (sc-508 FITC), Alexa Fluor® 488 (sc-508 AF488), Alexa Fluor® 546 (sc-508 AF546), Alexa Fluor® 594 (sc-508 AF594) or Alexa Fluor® 647 (sc-508 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-508 AF680) or Alexa Fluor® 790 (sc-508 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

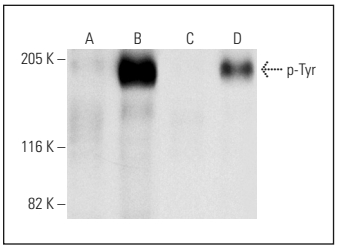
p-Tyr (PY20) is recommended for detection of phosphotyrosine-containing proteins of broad species origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Positive Controls: A-431 + EGF whole cell lysate: sc-2202.

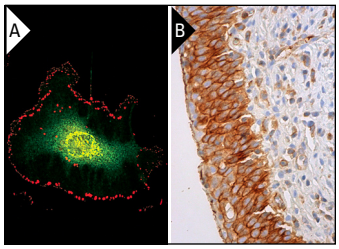
STORAGE

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

DATA



Western blot analysis of p-Tyr phosphorylation in untreated (**A**,**C**) and EGF treated (**B**,**D**) A-431 whole cell lysates. Antibodies tested include p-Tyr (PY99): sc-7020 (**A**,**B**) and p-Tyr (PY20): sc-508 (**C**,**D**).



p-Tyr (PY20): sc-508. Immunofluorescence staining of methanol/acetone fixed rat embryo fibroblasts both with p-Tyr (red) and PKC η (C-15): sc-215 (fluorescein) (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human urinary bladder tissue showing membrane and cytoplasmic localization of tyrosine phosphorylated proteins (**B**).

SELECT PRODUCT CITATIONS

1. Schorb, W., et al. 1994. Angiotensin II-induced protein tyrosine phosphorylation in neonatal rat cardiac fibroblasts. J. Biol. Chem. 269: 19626-19632.
2. Sartorius, T., et al. 2014. Cinnamon extract improves Insulin sensitivity in the brain and lowers liver fat in mouse models of obesity. PLoS ONE 9: e92358.
3. Chavez, A., et al. 2015. S1PR1 Tyr143 phosphorylation downregulates endothelial cell surface S1PR1 expression and responsiveness. J. Cell Sci. 128: 878-887.
4. Turowski, V., et al. 2016. Chicken TREM-B1, an inhibitory Ig-like receptor expressed on chicken thrombocytes. PLoS ONE 11: e0151513.
5. Schwartz, S.L., et al. 2017. Differential mast cell outcomes are sensitive to FcεRI-Syk binding kinetics. Mol. Biol. Cell 28: 3397-3414.
6. Luo, W., et al. 2018. Phospholipid scramblase 1 interacts with influenza A virus NP, impairing its nuclear import and thereby suppressing virus replication. PLoS Pathog. 14: e1006851.
7. Vámosi, G., et al. 2019. EGF receptor stalls upon activation as evidenced by complementary fluorescence correlation spectroscopy and fluorescence recovery after photobleaching measurements. Int. J. Mol. Sci. 20: 3370.
8. An, K., et al. 2020. Combination of N, N'-dicyclohexyl-N-arachidonic acylurea and tacrolimus prolongs cardiac allograft survival in mice. Immunol. Cell Biol. 98: 382-396.

RESEARCH USE

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