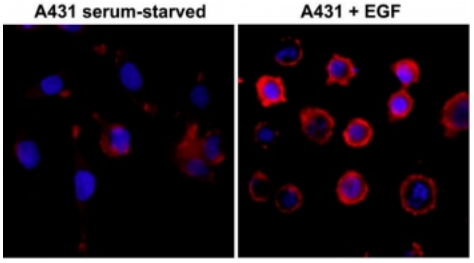
Phosphotyrosine Antibody / P-Tyr [clone RM111] (R20195)

Catalog No.	Formulation	Size
R20195-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug

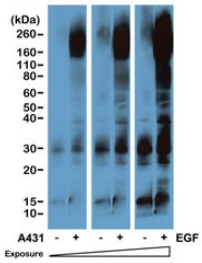
Recombinant RABBIT MONOCLONAL

Bulk quote request

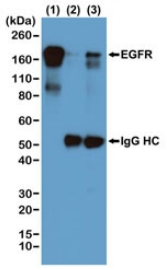
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM111
Purity	Protein A purified from animal origin-free supernatant
Gene ID	N/A
Applications	Western Blot : 1:1000 -1:5000 Immunoprecipitation : 1:200-1:1000 Chromatin IP (ChIP) : 1:200-1:1000 Immunocytochemistry : 1:200-1:500 Immunohistochemistry : 1:200-1:500 (1)
Limitations	This recombinant Phosphotyrosine antibody is available for research use only.



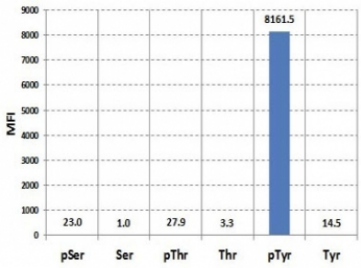
Immunocytochemistry analysis of phosphotyrosine in human A431 cells. Serum-starved human A431 cells were left untreated or stimulated with EGF and stained with Phosphotyrosine antibody (red) and DAPI (blue). Untreated serum-starved cells show low basal phosphotyrosine signal, while EGF-treated cells display increased phosphotyrosine staining with prominent membrane-associated and cytoplasmic signal, consistent with ligand-induced receptor tyrosine phosphorylation.



Western blot of serum-starved human A431 cells non-treated or treated with EGF using the recombinant Phosphotyrosine antibody at 1:5000. The blot was exposed to the film at different time points.



IP of EGF-treated human A431 cells by the recombinant Phosphotyrosine antibody at 1:1000 and blotted with an anti-EGFR mAb. (1) Whole lysate control; (2) IP by rabbit IgG control; (3) IP by RM111 mAb.



Luminex analysis of the recombinant Phosphotyrosine antibody reaction against phosphorylated or non-phosphorylated Serine, Threonine, and Tyrosine. The RM111 mAb reacts only to phosphorylated Tyrosine.

Description

Phosphotyrosine Antibody recognizes tyrosine-phosphorylated residues on proteins, a critical post-translational modification involved in cellular signaling, growth control, differentiation, and immune regulation. Protein tyrosine phosphorylation is dynamically regulated by protein tyrosine kinases and phosphatases and serves as a central mechanism for transmitting extracellular signals to intracellular pathways. Phosphotyrosine Antibody is widely used in research to monitor global tyrosine phosphorylation levels and to identify activated signaling proteins in both normal and disease-related contexts.

Tyrosine phosphorylation plays a pivotal role in receptor-mediated signaling, including pathways initiated by receptor tyrosine kinases such as EGFR, insulin receptor, and PDGF receptor. Upon ligand binding, these receptors undergo autophosphorylation on tyrosine residues, creating docking sites for downstream signaling proteins. Phosphotyrosine Antibody enables detection of these phosphorylation events, supporting studies of signal transduction, kinase activity, and pathway activation across diverse experimental systems.

In cancer research, aberrant tyrosine phosphorylation is a hallmark of oncogenic signaling, often resulting from kinase overactivation, mutation, or dysregulated phosphatase activity. Phosphotyrosine Antibody is therefore frequently applied in investigations of tumor signaling networks, drug response mechanisms, and kinase inhibitor efficacy. Its ability to broadly detect phosphotyrosine-modified proteins makes it a valuable tool for profiling signaling alterations associated with malignant transformation.

Beyond oncology, phosphotyrosine signaling is essential in immune cell activation, neuronal signaling, and developmental biology. Phosphotyrosine Antibody supports studies examining immune receptor activation, synaptic signaling events, and developmental pathway regulation by enabling visualization and analysis of tyrosine phosphorylation patterns in cells and tissues under various experimental conditions.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Phosphotyrosine antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

Phosphotyrosine-BSA conjugate was used as the immunogen for this recombinant Phosphotyrosine antibody.

Storage

Store the recombinant Phosphotyrosine antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).