

Product Information

Anti-Phosphotyrosine [pTyr²⁵⁶]

Developed in Rabbit, Affinity Isolated Antibody

Product Number **T 1575**

Product Description

Anti-Phosphotyrosine [pTyr²⁵⁶] is developed in rabbit using a phospho-L-tyrosine containing random peptide [pTyr²⁵⁶] conjugated to KLH as immunogen. The product is affinity-purified using the phospho-L-tyrosine containing random peptide [pTyr²⁵⁶] immobilized on agarose.

Anti-Phosphotyrosine [pTyr²⁵⁶] recognizes tyrosine phosphorylated proteins. The antibody recognizes the [pTyr²⁵⁶] random peptide and phospho-L-tyrosine, but does not recognize phospho-L-serine, phospho-L-threonine and L-tyrosine, as determined by inhibition in immunoblotting. The product is useful for immunoblotting and immunocytochemistry

Protein phosphorylation is the most abundant among post-translational modifications of cellular proteins, regulating intracellular signal transduction pathways in every living cell. Tyrosine, serine and threonine are the major amino acids that are phosphorylated in proteins. Tyrosine phosphorylation is a dynamic post-translational event in normal tissues regulating cell growth and development, and in oncogenesis.¹⁻⁴ Tyrosine phosphorylation accounts for only about 0.03% of phosphorylated amino acids in non-stimulated cells. However, this phosphorylation can increase several fold by various activation signals and the process is mediated by protein tyrosine kinases (PTKs).^{1,2} PTKs can be divided into two major groups, receptor tyrosine kinases (RTKs) and non-receptor tyrosine kinases (NRTKs).^{1,2} The RTK family includes many growth factor receptors (GFRs) such as the insulin-R, EGFR, PDGFR, FGFR and NGFR. These receptors possess an extra-cellular domain that is responsible for ligand binding, a trans-membrane domain and an intracellular domain that contains the catalytic activity and a regulatory sequence. The NRTK family consists of modular domains responsible for sub-cellular targeting and regulation of catalytic activity. This family includes Src, Abl, Fak, Jak and many others. The PTKs are responsible for many biological processes like cell cycle, proliferation, oncogenesis and development.

They are tightly regulated by other kinases and by autophosphorylation activity.^{1-2, 5,6} Antibodies specific for phosphotyrosine are essential tools for the characterization of tyrosine phosphorylation in many signal transduction pathways. Polyclonal antibodies can offer advantages over monoclonals, especially in immunoprecipitation protocols, and can theoretically react with a broader range of phosphotyrosine-containing proteins.

Reagent

The product is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. Upon initial thawing freeze the solution in working aliquots for extended storage. Avoid repeated freezing and thawing to prevent denaturing the antibody. Do not store in frost-free freezers. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 12 months when stored appropriately.

Product Profile

A recommended working concentration of 0.5-1.0 µg/ml is determined by immunoblotting using total cell extract of A431 stimulated by human EGF.

A working dilution of 5-10 µg/ml is determined by immunofluorescence, using A431 stimulated by human EGF.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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ER/AH/PHC REV 10/04

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