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ProductInformation

Anti-BTK, C-Terminal
Developed in Rabbit, IgG fraction of antiserum

Catalog Number: **B0811**

Product Description

Anti-BTK, C-terminal is developed in rabbit using a synthetic peptide corresponding to amino acids 642-659 of human BTK, conjugated to KLH via an N-terminal added cystein residue, as immunogen. This sequence is conserved in dog, and differs by one amino acid in mouse and rat. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti BTK, C-terminal specifically recognizes human BTK (75 kDa). Applications include immunoblotting. Staining of the BTK band in immunoblotting is specifically inhibited by the immunizing peptide**.**

Signaling through the surface antigen receptor in B cells leads to the activation of a variety of non-receptor protein tyrosine kinases. One of the key enzymes is Bruton's tyrosine kinase (BTK).[1] BTK (also known as Agammaglobulinemia tyrosine kinase [ATK]; B-cell progenitor kinase [BPK]; Agammaglobulinemia, X-linked, included [XLA, included]), is a member of the Tec family of cytoplasmic protein tyrosine kinases (PTK) and plays an essential role in B lymphocyte development and function. Together with Syk and Lyn, BTK acts as an imporant transducer of signals originating from the pre-B cell receptor.[2,3] BTK contains five distinct domains: an N-terminal pleckstrin homology (PH) domain, a Tec homology (TH) domain, Src homology SH3 and SH2 domains, and a catalytic domain. Upon BCR (B-cell receptor) stimulation, BTK activation is initiated by targeting the kinase to the plasma membrane through interactions of its PH domain with phosphatidylinositol-3,4,5-triphosphate, a second messenger generated by phosphoinositide 3-kinase.[4,5]

Defects in BTK are the cause of X-linked agammaglobulinemia type 1 (XLA). XLA is a humoral immunodeficiency disease which results in developmental defects in the B cells pathway. Affected boys have normal levels of pre-B cells in their bone marrow but virtually no circulating mature B lymphocytes.[6]

Reagent

The product is provided as a solution in 0.01M phosphate buffered saline, pH 7.4, containing15 mM sodium azide as a preservative.

Precautions and Disclaimer

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

Storage/Stability

For continuous use store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours**.**

Product Profile

A working dilution of 1:500-1:1000 is determined by immunoblotting, using lysates of Ramos (Human Burkitt lymphoma) cell line.

Recommendation**:** For immunoblotting, dilute the antibody in PBS containing 5.0 % non-fat dry milk and 0.05% Tween® 20.

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

References

1. Saouaf, S.J., et. al., *Proc. Natl. Acad. Aci., U.S.A*., **91**, 9524-9528 (1994).
2. Lindvall, J.M., et al., *Immunol Rev*., 203, 200-215 (2005).
3. Yang, W.-C., et al., *Immunity*, **12,** 373-382 (2000).
4. Salim, K., et al., *EMBO J*., **15**, 6241-6250 (1996).
5. Saito, K.A., et al., *J. Biol. Chem*., **276**, 16201-16206 (2001).
6. Middendorp, S., and Hendriks, R.W., *J. Immunol*., **172**, 1371-1379 (2004).

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