



FabGennix Inc.
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New Item
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Customer Service: 1-800 786 1236
Technical Service: 214 387 8105
Fax: 214 387 0870
Info@fabgennix.com
www.fabgennix.com

Phospho-MER Receptor Tyrosine kinase (MERTK) selective antibodies

Anti-Phospho-MERTK Antibodies (PMKT-140AP)

Tyrosine kinase activity is critical for transducing mitogenic signals inside the cells. Many of these tyrosine kinase proteins and receptors undergo auto-phosphorylation for the regulation of their activity (1, 2). Such autophosphorylation takes place at multiple sites and results in to phosphorylation of cellular substrates. The Nyk receptor tyrosine kinase was identified by screening human glioma expression library with an anti-Phosphotyrosine antibody. The same kinase was also independently identified and cloned by Graham and coworkers and they referred it as Mer (3). A chicken homologues for this gene is also identified as c-eyk (4). The Nyk/Mertk/c-eyk are the newest members of the Ufo/Axl family of receptor tyrosine kinases which are characterized by the presence of NCAM-like extra-cellular regions with 2 IgG-like domains juxtaposed with 2 fibronectin III-like regions. It is been shown that MERTK/Nyk has a strong mitogenic and transforming potential by activating PI 3 kinase, PLCgamma, MAP-kinase pathways (5).

The auto-phosphorylation of MERTK was mapped on tryptic peptide containing amino acids 748-755 (CKKIY⁷⁴⁹SGDY⁷⁵³Y⁷⁵⁴RQG). The three tyrosine residues lie in the tyrosine kinase domain between sub-domains VII and VIII (6). It has been shown that kinase activity correlates with autophosphorylation of MERTK and that mutation of these tyrosine severely crippled the kinase activity (7). Autophosphorylation of this regions appears to be a common mechanism for several tyrosine kinases, however, the subtle differences in the pattern of phosphorylation was noted in various other kinase systems. It is also notes that preferable substrate for autophosphorylation in MERTK is the tyrosine 754 (7), substitution mutation to Phenylalanine exhibited a 90% decrease in atophosphorylation of MERTK compared to wild type protein.

The receptor tyrosine kinase MERTK protein is a approximately 175-210 kDa protein. The MERTK protein has a tyrosine kinase domain closer to the C-terminal region and putative phosphorylation sites. The Anti-Phospho-MERTK-selective antibody was generated against phosphor-tyrosine containing peptide from a conserved sequence near the C-terminal end that is unique to MERTK/Nyk protein only. Phospho-specific antibodies were isolated on immobilized phosphor and non-phospho antigen affinity matrices. FabGennix International Inc. also have Anti-MERTK selective antibodies as affinity-purified form for confocal, Western blotting and immunocytochemical analyses. *FabGennix Inc.* will also conjugate antibodies with fluorescent probes upon request at extra charge. *FabGennix Inc.* also provides antibodies against proteins that are involved in signal transduction, retinal degenerative diseases and against GPCRs. FabGennix Inc employs cyclic peptide methodology for generating antibodies, which results in higher titer and specificity. FabGennix, Int. Inc., will also provide Western blot positive controls for most of these antibodies in ready-to-use buffer for easy identification of respective proteins. Limited quantities of antigens are also available. Please enquire for their availability before ordering.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Price
PMKT-140P	Rabbit	Affinity purified antibodies	R, M, H	100 µg	285
P-MKT	n/a	Antigenic blocking peptide	n/a	250 µg	65
P-PMKT	n/a	Antigenic blocking Phospho-peptide	n/a	250 µg	85
PC-PMKT	n/a	Western blot positive control	Phospho protein	2 applications	Inquire
PC-MKT	n/a	Western blot positive control	Non-Phospho protein	2 applications	Inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally

Synthetic Phospho peptide for PMKT-140AP antibody (CKKIY⁷⁴⁹SGDY⁷⁵³YRQG-amide)

Concentration: PMKT-140AP; IgG concentration 0.65-1.25 mg/ml in 50% antibody stabilization buffer.

Applications: Antibody PMKT-140AP is ideal for WB applications (Dilution for WB 1:750). The antibody has not been tested in other applications. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay.

Reactivity: This antibody detects only phosphorylated form of MERTK protein. The antibody does not have any reactivity towards non-phosphorylated protein or to other members of the tyrosine kinases.

Protocols: Standard protocol for Western blotting use of this antibody can be requested at the time of order. The protocol is, however, only for reference purposes and FabGennix International Inc. strongly recommends investigators to optimize conditions for use of this antibody.

Form/Storage: The antisera are supplied in antibody stabilization buffer. For long-term storage of antibodies, store at -20°C. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (DiluOBuffer; Cat # FGI). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µ filter after every use for long-term storage.

References:

1. Kazlauskas A. Current Opin. Genet. Dev. 1994; 4; 5-14.
1. Heldin C. H. Cell 1995; 80; 213-223.
2. Graham D. K., Dawson T. L., Mullaney D. L., et. al., Cell Growth Diff. 1994; 5; 647-657.
3. Jia R. and Manafusa H. J. Biol. Chem. 1994; 269; 1839-1844.
4. Ling L. and Kung H. J. Mol. Cell Biol. 1995; 15; 6582-6592.
5. Hanks S. K. and Quinn A. M. Methods in Enzymology 1992; 200; 38-62.
6. Ling L., Templeton D and Kung H. J. J. Biol. Chem. 1996; 271; 18355-18362.

* For users who may require large amounts of MERTK-100P or MERTK-101AP, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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5850 Town and Country Blvd. Suite 301. Frisco, TX 75034

Customer service: 1800 786 1236; Technical Support: 214 387 8105