

Rabbit Anti-phospho-IRAK4 (Thr345)/AP Conjugated antibody

SL4080R-AP

Product Name	Anti-phospho-IRAK4 (Thr345)/AP
Chinese Name	碱性磷酸酶 (AP) 标记的磷酸化白介素-1 受体相关激酶 4 抗体 IRAK4 (phospho T345); p-IRAK4 (phospho T345); IL-1 Receptor-associated Kinase 4; 8430405M07Rik; 9330209D03Rik; IPD1; IRAK4; NY-REN-64; REN64; INTERLEUKIN RECEPTOR-ASSOCIATED KINASE 4;
Alias	Interleukin 1 receptor associated kinase 4 mutant form 1; Interleukin-1 receptor-associated kinase 4; Interleukin1 receptor associated kinase 4; IPD1; IRAK 4; IRAK-4; IRAK4 mutated form 1; IRAK4_HUMAN; LOC 51135; NY REN 64 antigen; Renal carcinoma antigen NY-REN-64.
Product Type	Phosphorylated anti
Research Area	Cell biology immunology Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Mouse(predicted:Human,Rat,Dog,Pig,Cow,Rabbit,Sheep,GuineaPig) WB=1000-10000,IHC-P=1:100-500,IHC-F=1:100-500
Applications	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	51kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated Synthesised phosphopeptide derived from human IRAK4 around the phosphorylation site of Thr345
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks
Storage	

at 2-4 °C.

background:

This gene encodes a kinase that activates NF-kappaB in both the Toll-like receptor (TLR) and T-cell receptor (TCR) signaling pathways. The protein is essential for most innate immune responses. Mutations in this gene result in IRAK4 deficiency and recurrent invasive pneumococcal disease. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2011]

Function:

Serine/threonine-protein kinase that plays a critical role in initiating innate immune response against foreign pathogens. Involved in Toll-like receptor (TLR) and IL-1R signaling pathways. Is rapidly recruited by MYD88 to the receptor-signaling complex upon TLR activation to form the Myddosome together with IRAK2. Phosphorylates initially IRAK1, thus stimulating the kinase activity and intensive autophosphorylation of IRAK1. Phosphorylates E3 ubiquitin ligases Pellino proteins (PELI1, PELI2 and PELI3) to promote pellino-mediated polyubiquitination of IRAK1. Then, the ubiquitin-binding domain of IKBKG/NEMO binds to polyubiquitinated IRAK1 bringing together the IRAK1-MAP3K7/TAK1-TRAF6 complex and the NEMO-IKKA-IKKB complex. In turn, MAP3K7/TAK1 activates IKKs (CHUK/IKKA and IKBKB/IKKB) leading to NF-kappa-B nuclear translocation and activation. Alternatively, phosphorylates TIRAP to promote its ubiquitination and subsequent degradation. Phosphorylates NCF1 and regulates NADPH oxidase activation after LPS stimulation suggesting a similar mechanism during microbial infections.

Product Detail

Subunit:

Associates with MYD88 and IRAK2 to form a ternary complex called the Myddosome. Once phosphorylated, IRAK4 dissociates from the receptor complex and then associates with the TNF receptor-associated factor 6 (TRAF6), IRAK1, and PELI1; this intermediate complex is required for subsequent NF-kappa-B activation. Interacts with IL1RL1.

Subcellular Location:

Cytoplasm.

Post-translational modifications:

Phosphorylated.

DISEASE:

Defects in IRAK4 are the cause of recurrent isolated invasive pneumococcal disease type 1 (IPD1) [MIM:610799]. Recurrent invasive pneumococcal disease (IPD) is defined as two episodes of IPD occurring at least 1 month

apart, whether caused by the same or different serotypes or strains. Recurrent IPD occurs in at least 2% of patients in most series, making IPD the most important known risk factor for subsequent IPD.

Defects in IRAK4 are the cause of IRAK4 deficiency (IRAK4D) [MIM:607676]. IRAK4 deficiency causes extracellular pyogenic bacterial and fungal infections in otherwise healthy children.

Similarity:

Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. Pelle subfamily.

Contains 1 death domain.

Contains 1 protein kinase domain.

Database links:

[Entrez Gene: 51135](#) Human

[Entrez Gene: 266632](#) Mouse

[Omim: 606883](#) Human

[SwissProt: Q9NWZ3](#) Human

[SwissProt: Q8R4K2](#) Mouse

[Unigene: 138499](#) Human

[Unigene: 422858](#) Mouse

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.