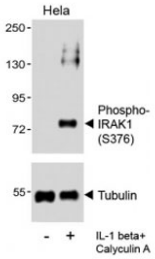
Phospho-IRAK1 Antibody (S376) (F54105)

Catalog No.	Formulation	Size
F54105-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54105-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P51617
Applications	Western Blot : 1:1000
Limitations	This phospho-IRAK1 antibody is available for research use only.



Western blot analysis of lysates from the human HeLa cell line, untreated or treated with IL-1 beta (20ng/ml) + Calyculin A (100nM), using phospho-IRAK1 antibody (upper) or Tubulin Ab (lower).

Description

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. Association with MYD88 leads to IRAK1 phosphorylation by IRAK4 and subsequent autophosphorylation and kinase activation. 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 the interferon regulatory factor 7 (IRF7) to induce its activation and translocation to the nucleus, resulting in transcriptional activation of type I IFN genes, which drive the cell in an antiviral state. When sumoylated, translocates to the nucleus and phosphorylates STAT3. [UniProt]

Application Notes

The stated application concentrations are suggested starting points. Titration of the phospho-IRAK1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 348-381 from human IRAK1 was used as the immunogen for the phospho-IRAK1 antibody.

Storage

Aliquot the phospho-IRAK1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.