

IRAK-1 Polyclonal Antibody

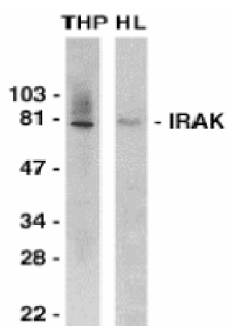
Product Specifications	
Catalog Number:	905-709-100
Host:	Rabbit
Species Reactivity:	Human, mouse, rat
Applications: <i>The optimal dilution for a specific application must be determined by the investigator</i>	WB: 1 µg/mL ICC: 10 µg/mL IP: 2-4 µg/sample
Predicted m.w:	~80 kDa
Concentration:	See product label
Purification:	Ion Exchange Chromatography
Format:	PBS, 0.02% sodium azide
Storage: <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
Immunogen:	Synthetic peptide corresponding to a sequence near the carboxy-terminus of human IRAK
Related Products:	
905-265	IRAK-2 Polyclonal Antibody
905-693	IRAK-4 Polyclonal Antibody
CSA-780	TLR2 Monoclonal Antibody
CSA-510	MyD88 Polyclonal Antibody

Background:

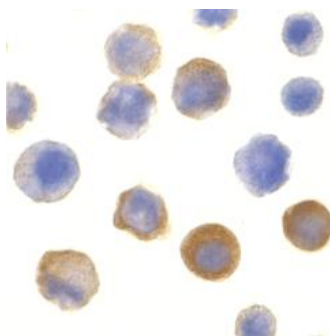
The interleukin-1 receptor associated protein kinase (IRAK) family consists of four identified mammalian family members, IRAK-1, IRAK-2, IRAK-M, and IRAK-4, which function as mediators of interleukin-1 receptor (IL-1R) and toll-like receptor (TLR) signaling in the innate immune response^{1,2}. IRAK-1 is associated with the IL-1 receptor subunits IL-1RI and IL-1RAcP after IL-1 binding and serves as a signaling molecule to mediate IL-1 response³. IRAK-1 shares structural homology with other IRAK family members with the presence of an N-terminal death domain (DD) and a central kinase domain. Binding of ligand to the IL-1R or TLR recruits the adaptor protein MyD88 to the cell membrane. IRAK-4 then complexes with MyD88 along with IRAK-1 via DD affinity, where IRAK-4 hyperphosphorylates IRAK-1. Phosphorylated IRAK-1 mediates recruitment of tumor necrosis factor receptor-associated factor 6 (TRAF6) to the complex, initiating a cytosolic cascade which activates transcription of inflammatory cytokine genes (IL-6, IL-12, TNF-α, IFN-α/β) regulated by NF-κB and interferon regulatory factors (IRFs)^{1,2}.

References:

1. Akira, S., et al. (2003) J Biol Chem. **278**, 38105-38108.
2. Honda, K., et al. (2005) Int Immunol. **17**, 1367-1378.
3. Huang, J., et al. (1997) Proc Natl Acad Sci USA. **94**, 12829-32.



Western blot analysis of THP-1 (THP) and HeLa (HL) whole cell lysates with IRAK-1 Polyclonal antibody at 0.5 µg/mL.



Immunocytochemistry of HeLa cells with IRAK-1 Polyclonal antibody at 10 µg/mL.

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