

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human NLRP3/NALP3 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) NALP1 and rhNALP2 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human NLRP3/NALP3 Ala4-Val223 Accession # Q96P20
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below

## DATA

**Western Blot**

**Detection of Human NLRP3/NALP3 by Western Blot.** Western blot shows lysates of HEK293 human embryonic kidney cell line either mock transfected, transfected with human NALP1 or transfected with NLRP3/NALP3 and THP-1 human acute monocytic leukemia cell line untreated (-) or treated (+) with 20 ng/mL PMA for 72 hours and 1 µg/mL LPS for 24 hours. PVDF Membrane was probed with 0.5 µg/mL of Sheep Anti-Human NLRP3/NALP3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6789) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for NLRP3/NALP3 at approximately 115 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

**Immunocytochemistry**

**NLRP3/NALP3 in THP-1 Human Cell Line.** NLRP3/NALP3 was detected in immersion fixed THP-1 human acute monocytic leukemia cells, unstimulated (lower panel) and stimulated (upper panel) with PMA and LPS, using Sheep Anti-Human NLRP3/NALP3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6789) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

NALP3 (Nacht, Leucine-rich repeat and PYD domain containing protein 3; also PYPAF1, CIAS1 and CLR1.1) is a cytoplasmic 115-130 kDa member of the NLRP family of molecules. It is selectively expressed, being found in stratified squamous and transitional epithelium, Hassell's corpuscles, neutrophils, dendritic cells and T cells. NALP3 promotes IL-1β and IL-18 maturation by activating caspase-1. It does so by forming a NALP3 inflammasome comprised of NALP3, ASC and caspase-1. Bacterial RNA and cell wall peptidoglycan can bind to NALP3, promoting (potentially) ATP binding, NALP3 oligomerization, and caspase activation. Human NALP3 is 1036 amino acids (aa) in length. It contains an N-terminal DAPIN domain (aa 1-93), a NACHT domain (aa 220-536), and seven consecutive LRRs (aa 740-991). Alternate splice forms are reported. Either individually, or in combination, there can be deletions of aa 836-892 or 721-777, and a premature truncation after Gly719 that generates a 70 kDa isoform. Over aa 3-223, human NALP3 shares 76% aa identity with mouse NALP3.