Toll-like receptor 8/TLR8 Protein, Human (P.pastoris, His)

Cat. No.:	HY-P72270
Synonyms:	CD288; CD288 antigen; Toll like receptor 8
Species:	Human
Source:	P. pastoris
Accession:	Q9NR97 (E27-T827)
Gene ID:	51311
Molecular Weight:	Approximately 93.5kDa

PROPERTIES

AA Sequence	E E N F S R S Y P C D E K K Q N D S V I A E C S N R R L Q E V P Q T V G K Y V T E L D L S D N F I T H I T N E S F Q G L Q N L T K I N L N H N P N V Q H Q N G N P G I Q S N G L N I T D G A F L N L K N L R E L L L E D N Q L P Q I P S G L P E S L T E L S L I Q N N I Y N I T K E G I S R L I N L K N L Y L A W N C Y F N K V C E K T N I E D G V F E T L T N L E L L S L S F N S L S H V P P K L P S S L R K L F L S N T Q I K Y I S E E D F K G L I N L T L L D L S G N C P R C F N A P F P C V P C D G G A S I N I D R F A F Q N L T Q L R Y L N L S S T S L R K I N A A W F K N M P H L K V L D L E F N Y L V G E I A S G A F L T M L P R L E I L D L S F N Y I K G S Y P Q H I N I S R N F S K L L S L R A L H L R G Y V F Q E L R E D D F Q P L M Q L P N L S T I N L G I N F I K Q I D F K L F Q N F S N L E I I Y L S E N R I S P L V K D T R Q S Y A N S S S F Q R H I R K R R S T D F E F D P H S N F Y H F T R P L I K P Q C A A Y G K A L D L S L N S I F F I G P N Q F E N L P D I A C L N L S A N S N A Q V L S G T E F S A I P H V K Y L D L T N N R L D F D N A S A L T E L S D L E V L D L S Y N S H Y F R I A G V T H H L E F I Q N F T N L K V L N L S H N N I Y T L T D K Y N L E S K S L V E L V F S G N R L D I L W N D D D N R Y I S I F K G L K N L T R L D L S L N R L K H I P N E A F L N L P A S L T E L H I N D N M L K F F N W T L L Q Q F P R L E L L D L R G N K L L F L T D S L S D F T S S L R T L L L S H N R I S H L P S G F L S E V S S L K H L D L S S N L L K T I N K S A L E T K T T T K L S M L E L H G N P F E C T C D I G D F R R W M D E H L N V K I P T R L V D V I C A S P G D Q R G K S I V S L E L T T C V S D V
Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.2 μm filtered solution in 20 mM Tris-HC1, 0.5 M NaCl, 3% Trehalose, pH 8.0.
Endotoxin Level	<3 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is

	recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Toll-like receptor 8 (TLR8) Protein, an endosomal receptor central to innate and adaptive immunity, plays a crucial role in orchestrating the host immune response against pathogens by recognizing RNA degradation products specific to microorganisms, initially processed by RNASET2. Notably, TLR8 is adept at recognizing GU-rich single-stranded RNA (GU-rich RNA) derived from various viruses, including SARS-CoV-2, SARS-CoV-1, and HIV-1. Upon binding to agonists, TLR8 undergoes dimerization, facilitating the direct contact of Toll/Interleukin-1 receptor (TIR) domains, leading to the recruitment of the downstream adapter MYD88 through homotypic interaction. This sets off the formation of the Myddosome signaling complex involving IRAK4, IRAK1, TRAF6, and TRAF3, ultimately activating downstream transcription factors NF-kappa-B and IRF7 to induce pro-inflammatory cytokines and interferons. TLR8's activation is particularly triggered by RNAs containing a sufficient number of uridines, underscoring its specificity in pathogenic RNA recognition and immune response initiation.

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