

TLR4 Recombinant Polyclonal Antibody (20HCLC)

Catalog Number 710185

Product data sheet

| Details | | Species Reactivity | |
|--------------------|--|--|--------------------------|
| Size | 100 µg | Species reactivity | Human, Mouse |
| Host/Isotope | Rabbit / IgG | Published species | Human |
| Class | Recombinant Polyclonal | Tested Applications | |
| Type | Antibody | Immunohistochemistry (Paraffin) (IHC (P)) | 1:20 |
| Clone | 20HCLC | Western Blot (WB) | 2-5 µg/mL |
| Immunogen | Peptide corresponding to amino acids 816-830 of human Toll-like receptor 4 | Immunocytochemistry (ICC/IF) | 1-3 µg/mL |
| Conjugate | Unconjugated | Published Applications | |
| Form | Liquid | Immunohistochemistry (IHC) | See 2 publications below |
| Concentration | 0.5 mg/mL | * Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls. | |
| Purification | Protein A | | |
| Storage buffer | PBS | | |
| Contains | 0.09% sodium azide | | |
| Storage Conditions | Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles. | | |

Product specific information

Recombinant rabbit polyclonal antibodies are unique offerings from Thermo Fisher Scientific. They are comprised of a selection of multiple different recombinant monoclonal antibodies, providing the best of both worlds - the sensitivity of polyclonal antibodies with the specificity of monoclonal antibodies - all delivered with the consistency only found in a recombinant antibody. While functionally the same as a polyclonal antibody - recognizing multiple epitope sites on the target and producing higher detection sensitivity for low abundance targets - a recombinant rabbit polyclonal antibody has a known mixture of light and heavy chains. The exact population can be produced in every lot, circumventing the biological variability typically associated with polyclonal antibody production.

Background/Target Information

TLR4 is member of the Toll like receptor (TLR) family which plays a fundamental role in pathogen recognition and activation of innate immunity. TLRs are highly conserved from Drosophila to humans and share structural and functional similarities. This receptor is most abundantly expressed in placenta, and in myelomonocytic subpopulation of the leukocytes. Mammalian cells respond to LPS by activating TLR4. TLR4 belongs to the multi-protein complex of lipopolysaccharide (LPS) receptor, containing CD14, LY96 and TLR4, and is involved in signal transduction events induced by lipopolysaccharide (LPS) found in most gram-negative bacteria. TLR4 aids in the recognition of pathogen-associated molecular patterns (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines necessary for the development of effective immunity. The various TLRs exhibit different patterns of expression. Mutations in the TLR4 gene have been associated with differences in LPS responsiveness. Also, several transcript variants of the TLR4 gene have been found, but the protein coding potential of most of them is uncertain. TLR4 is expressed by peripheral blood monocytes and a small population of B-cells and is also expressed in human placenta. Studies with TLR4-deficient mice indicate that the main ligand for TLR is lipopolysaccharide. Consequently, these mice also showed increased susceptibility to Gram-negative sepsis.

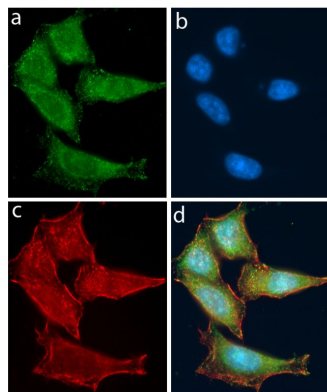
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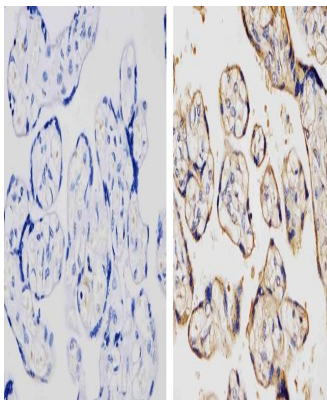
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Product Images For TLR4 Recombinant Polyclonal Antibody (20HCLC)



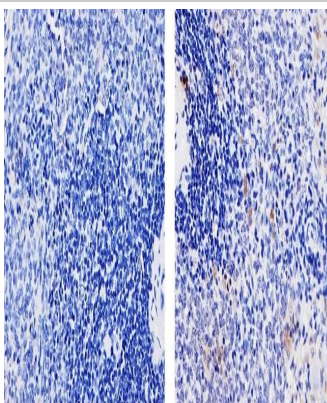
TLR4 Antibody (710185) in ICC/IF

Immunofluorescent analysis of TLR4 in A431 cells using a TLR4 Recombinant Rabbit Polyclonal Antibody (Product # 710185) followed by detection using an Alexa Fluor 488-conjugated Goat anti-Rabbit secondary antibody (green) (Image A). Nuclei were stained using DAPI (Image B) and actin stained with Alexa Fluor 594 phalloidin (red) (image C). Image D is a composite image showing cytoplasmic localization of TLR4.



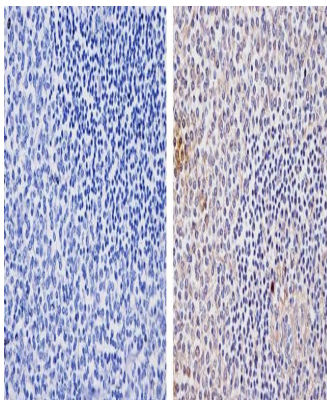
TLR4 Antibody (710185) in IHC (P)

Immunohistochemistry analysis of TLR4 (C-TERM) showing staining in the membrane and weak staining in the cytoplasm of paraffin-embedded human placenta tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H₂O₂-methanol for 15 min at room temperature, washed with ddH₂O and PBS, and then probed with a TLR4 (C-TERM) Recombinant Rabbit Polyclonal Antibody (Product # 710185) diluted in 3% BSA-PBS at a dilution of 1:20 for 1 hour at 37°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



TLR4 Antibody (710185) in IHC (P)

Immunohistochemistry analysis of TLR4 (C-TERM) showing staining in the cytoplasm of paraffin-embedded mouse spleen tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H₂O₂-methanol for 15 min at room temperature, washed with ddH₂O and PBS, and then probed with a TLR4 (C-TERM) Recombinant Rabbit Polyclonal Antibody (Product # 710185) diluted in 3% BSA-PBS at a dilution of 1:20 for 1 hour at 37°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



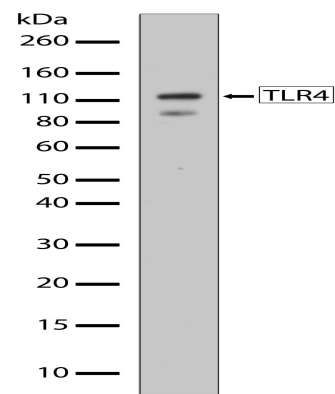
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Immunohistochemistry analysis of TLR4 (C-TERM) showing staining in the cytoplasm of paraffin-embedded human spleen tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H₂O₂-methanol for 15 min at room temperature, washed with ddH₂O and PBS, and then probed with a TLR4 (C-TERM) Recombinant Rabbit Polyclonal Antibody (Product # 710185) diluted in 3% BSA-PBS at a dilution of 1:20 for 1 hour at 37°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

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TLR4 Antibody (710185) in WB

Western blot analysis of TLR4 in whole cell extracts of HT29 using a TLR4 Recombinant Rabbit Polyclonal Antibody (Product # 710185) at a dilution of 2 µg/mL. Samples were detected using chemiluminescence (ECL). Results show a band at ~110kDa.

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PubMed References For TLR4 Recombinant Polyclonal Antibody (20HCLC)

2 Immunohistochemistry References

| Species / Dilution | Summary |
|--------------------|---|
| Human / 1:10 | 710185 was used in Immunohistochemistry-immunofluorescence to characterise endolymphatic sac macrophages using super-resolution structured fluorescence microscopy and speculate on these macrophages' roles in human inner ear defence. |
| | Frontiers in immunology (2019; 9:) "The Human Endolymphatic Sac and Inner Ear Immunity: Macrophage Interaction and Molecular Expression." Author(s):Kämpfe Nordström C,Danckwardt-Lillieström N,Laurell G,Liu W,Rask-Andersen H PubMed Article URL: http://dx.doi.org/10.3389/fimmu.2018.03181 |
| Human / 1:10 | 710185 was used in Immunohistochemistry to study the human inner ear and vestibulocochlear nerve. |
| | Frontiers in neurology (2020; 10:) "Human Inner Ear Immune Activity: A Super-Resolution Immunohistochemistry Study." Author(s):Liu W,Kämpfe Nordström C,Danckwardt-Lillieström N,Rask-Andersen H PubMed Article URL: http://dx.doi.org/10.3389/fneur.2019.00728 |

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