abcam

ab37241

Anti-CHIPS antibody [JNC1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Clone number	JNC1
Purification technique	Affinity purification Protein G
Specificity	ab37241 reacts with N-terminus of CHIPS.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Expected

Species	Staphylococcus aureus
Dilution info	1/10
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Expected

Species	Staphylococcus aureus
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Staphylococcus aureus
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Expected

Species	Staphylococcus aureus
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information chp

Function	Involved in countering the first line of host defense mechanisms. Specifically inhibits the response of human neutrophils and monocytes to complement anaphylatoxin C5a and formylated peptides, like N-formyl-methionyl-leucyl-phenylalanine (fMLP). Acts by binding directly to the C5a receptor (C5aR) and formylated peptide receptor (FPR), thereby blocking the C5a- and fMLP-induced calcium responses. Prevents phagocytosis of the bacterium (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CHIPS also known as Chemotaxis Inhibitory Protein of Staphylococcus aureus is a small protein with a molecular mass of approximately 14 kDa. CHIPS is expressed by Staphylococcus aureus and acts mainly in the human immune system. CHIPS binds to C5a receptors on neutrophils and formyl peptide receptors blocking essential chemotactic signals necessary for immune cell recruitment. This mechanism facilitates the bacteria's ability to evade host immune responses.
Biological function summary	As part of the bacterial strategy to evade host defenses CHIPS interrupts the chemotaxis process in the immune response. By blocking the activation of neutrophils CHIPS disrupts normal immune surveillance and inflammatory responses. It operates as part of a larger set of immune-modulatory factors expressed by Staphylococcus aureus allowing the bacterium to persist in host tissues.
Pathways	The inhibition of pathways involving chemotaxis demonstrates CHIPS's role in impeding immune response. CHIPS affects the complement pathway specifically interrupting the interaction between C5a and its receptor C5aR on immune cells. This interaction is important for recruiting immune cells during an inflammatory response. Though not related directly CHIPS also associates functionally with formyl peptide receptors involved in pathways that trigger neutrophil migration linking it indirectly to similar immune response pathways.
Associated diseases and disorders	CHIPS's activity relates closely to conditions of bacterial infection and sepsis. By hindering neutrophil recruitment CHIPS contributes to increased bacterial virulence making infections more severe and challenging to clear. Furthermore CHIPS interference with immune pathways could exacerbate conditions like inflammatory responses which play roles in disorders like systemic inflammatory response syndrome (SIRS). CHIPS interacts with host proteins such as C5a and formyl peptide receptors highlighting its potential impact on immune evasion and pathogenesis during infections.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

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