Product datasheet

Anti-Thrombin antibody [5G9] ab17199

Overview

Product name: Anti-Thrombin antibody [5G9]
Description: Mouse monoclonal [5G9] to Thrombin
Host species: Mouse
Specificity: Binds to human thrombin and to a complex of human thrombin with the thrombin inhibitor hirudin.
Tested applications: Suitable for: WB, IHC-P
Species reactivity: Reacts with: Human
Immunogen: Full length native protein (purified) corresponding to Human Thrombin. Thrombin isolated from activated human plasma
Epitope: not mapped
Positive control: purified alpha thrombin IHC-P: Human liver FFPE tissue sections.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer: pH: 7.40
Preservative: 0.097% Sodium azide
 Constituents: 0.0268% PBS, 2.9% Sodium chloride
Purity: Protein G purified
Clonality: Monoclonal
Clone number: 5G9
Myeloma: x63-Ag8.653
Isotype: IgG1
Light chain type: kappa

Applications

Our Abpromise guarantee covers the use of ab17199 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Thrombin, which cleaves bonds after Arg and Lys, converts fibrinogen to fibrin and activates factors V, VII, VIII, XIII, and, in complex with thrombomodulin, protein C. Functions in blood homeostasis, inflammation and wound healing.

Expressed by the liver and secreted in plasma.

Factor II deficiency
Ischemic stroke
Thrombophilia due to thrombin defect
Pregnancy loss, recurrent, 2

Belongs to the peptidase S1 family.
Contains 1 Gla (gamma-carboxy-glutamate) domain.
Contains 2 kringle domains.
Contains 1 peptidase S1 domain.

The gamma-carboxyglutamyl residues, which bind calcium ions, result from the carboxylation of glutamyl residues by a microsomal enzyme, the vitamin K-dependent carboxylase. The modified residues are necessary for the calcium-dependent interaction with a negatively charged phospholipid surface, which is essential for the conversion of prothrombin to thrombin.

N-glycosylated. N-glycan heterogeneity at Asn-121: Hex3HexNAc3 (minor), Hex4HexNAc3 (minor) and Hex5HexNAc4 (major). At Asn-143: Hex4HexNAc3 (minor) and Hex5HexNAc4 (major).

Secreted, extracellular space.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>1/500</td>
<td>Detects a band of approximately 75 kDa (predicted molecular weight: 70 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 10 µg/ml.</td>
</tr>
</tbody>
</table>

Target

Function
Thrombin, which cleaves bonds after Arg and Lys, converts fibrinogen to fibrin and activates factors V, VII, VIII, XIII, and, in complex with thrombomodulin, protein C. Functions in blood homeostasis, inflammation and wound healing.

Tissue specificity
Expressed by the liver and secreted in plasma.

Involvement in disease
Factor II deficiency
Ischemic stroke
Thrombophilia due to thrombin defect
Pregnancy loss, recurrent, 2

Sequence similarities
Belongs to the peptidase S1 family.
Contains 1 Gla (gamma-carboxy-glutamate) domain.
Contains 2 kringle domains.
Contains 1 peptidase S1 domain.

Post-translational modifications
The gamma-carboxyglutamyl residues, which bind calcium ions, result from the carboxylation of glutamyl residues by a microsomal enzyme, the vitamin K-dependent carboxylase. The modified residues are necessary for the calcium-dependent interaction with a negatively charged phospholipid surface, which is essential for the conversion of prothrombin to thrombin.

N-glycosylated. N-glycan heterogeneity at Asn-121: Hex3HexNAc3 (minor), Hex4HexNAc3 (minor) and Hex5HexNAc4 (major). At Asn-143: Hex4HexNAc3 (minor) and Hex5HexNAc4 (major).

Cellular localization
Secreted, extracellular space.

Images
ab17199 staining Thrombin in human liver tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde, permeabilized with 0.2% Triton X-100 in PBS and blocked with 5% milk for 30 minutes at room temperature; antigen retrieval was by heat mediation in Tris pH 9.0. Samples were incubated with primary antibody (1/100 in PBS) for 16 hours at 4°C. An undiluted Biotin-conjugated horse anti-mouse IgG polyclonal was used as the secondary antibody.

IHC image of Thrombin staining in human liver formalin fixed paraffin embedded tissue section, performed on a Leica Bond system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab17199, 10µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

All lanes : Anti-Thrombin antibody [5G9] (ab17199) at 1 µg/ml

Lane 1 : Human liver tissue lysate - total protein (ab29889)
Lane 2 : Human Plasma Total Protein Lysate
Lane 3 : HepG2 nuclear extract lysate (ab14660)

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.
Performed under reducing conditions.

**Predicted band size:** 70 kDa  
**Observed band size:** 75 kDa

*why is the actual band size different from the predicted?*

**Additional bands at:** 40 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 12 minutes

Thrombin contains a number of potential glycosylation sites (SwissProt) which may explain its migration at a higher molecular weight than predicted.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"  

**Our Abpromise to you: Quality guaranteed and expert technical support**

- Replacement or refund for products not performing as stated on the datasheet  
- Valid for 12 months from date of delivery  
- Response to your inquiry within 24 hours  
- We provide support in Chinese, English, French, German, Japanese and Spanish  
- Extensive multi-media technical resources to help you  
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit [https://www.abcam.com/abpromise](https://www.abcam.com/abpromise) or contact our technical team.

**Terms and conditions**

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors