

Anti-Prothrombin Antibody Picoband™ (monoclonal, 4G13G9)

Catalog # ABO15116

Product Information

Application	WB, IHC
Primary Accession	P00734
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Prothrombin Antibody Picoband™ (monoclonal, 4G13G9) . Tested in IHC, WB applications. This antibody reacts with Human.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	2147
Other Names	Prothrombin, 3.4.21.5, Coagulation factor II, Activation peptide fragment 1, Activation peptide fragment 2, Thrombin light chain, Thrombin heavy chain, F2
Calculated MW	70037
Application Details	Western blot, 0.25-0.5 µg/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 µg/ml, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 4G13G9
Immunogen	E. coli-derived human Prothrombin recombinant protein (Position: Y97-R124).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	F2
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. Activates coagulation factor XI (F11); activation is promoted by the contact with negatively charged surfaces (PubMed: 2019570 , PubMed: 21976677). Triggers the production of pro- inflammatory cytokines, such as MCP-1/CCL2 and IL8/CXCL8, in endothelial cells (PubMed: 30568593 , PubMed: 9780208).
Cellular Location	Secreted, extracellular space.
Tissue Location	Expressed by the liver and secreted in plasma.

Background

F2 (Coagulation Factor II), also known as thrombin, is a serine protease that in humans is encoded by the F2 gene. This gene for human prothrombin (F2) was assigned to chromosome 11p11-q12 by analysis of a panel of somatic cell hybrid DNAs and by in situ hybridization, using both cDNA and genomic probes. The activated thrombin enzyme plays an important role in hemostasis and thrombosis: it converts fibrinogen to fibrin for blood clot formation, stimulates platelet aggregation, and activates coagulation factors V, VIII (F8), and XIII (F13A1). Thrombin also inhibits coagulation by activating protein C.

Images

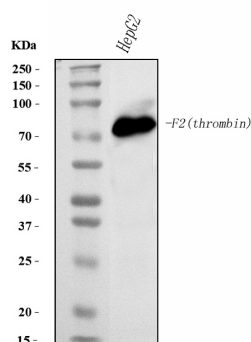


Figure 1. Western blot analysis of Prothrombin using anti-Prothrombin antibody (M00044-2).

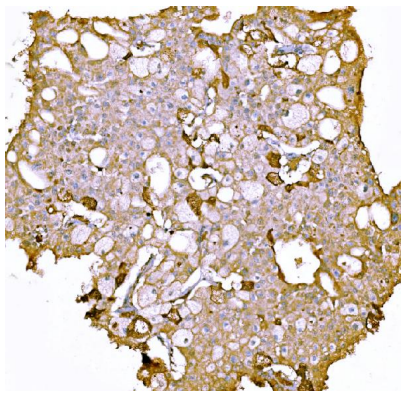
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human HepG2 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-Prothrombin antigen affinity purified monoclonal antibody (Catalog # M00044-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Prothrombin at approximately 70 kDa. The expected band size for Prothrombin is at 70 kDa.

Figure 2. IHC analysis of Prothrombin using anti-Prothrombin antibody (M00044-2).

Prothrombin was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Prothrombin Antibody (M00044-2) overnight at 4°C. Biotinylated goat



anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

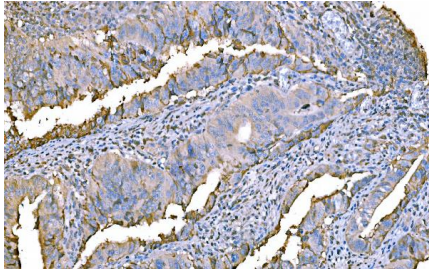


Figure 3. IHC analysis of Prothrombin using anti-Prothrombin antibody (M00044-2). Prothrombin was detected in a paraffin-embedded section of human colorectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Prothrombin Antibody (M00044-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

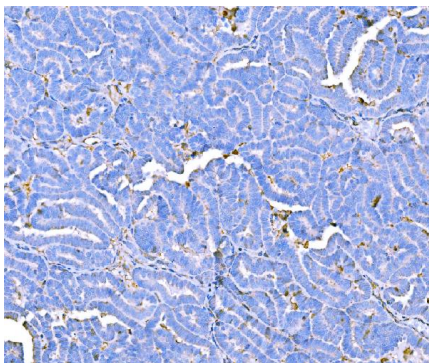


Figure 4. IHC analysis of Prothrombin using anti-Prothrombin antibody (M00044-2). Prothrombin was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-Prothrombin Antibody (M00044-2) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

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