

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Coagulation Factor II/Thrombin in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) PROC is observed, and less than 1% cross-reactivity with rhFactor X, recombinant mouse (rm) F             |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Coagulation Factor II/Thrombin                                                                                                                                                                                        |
| <b>Conjugate</b>          | Alexa Fluor 350<br>Excitation Wavelength: 346 nm<br>Emission Wavelength: 442 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| <b>CyTOF-ready</b>    | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>Flow Cytometry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Coagulation Factor II, commonly known as thrombin, is an essential component of the coagulation cascade in which it converts fibrinogen to fibrin, activates factors V, VII, VIII, XIII and forms complexes with protein C and thrombomodulin (1). It also activates platelets and regulates the behavior of additional cells through protease-activated receptors (PARs) (2). It may have either protective or deleterious functions, depending on the level and location (3). Its activity is regulated by endogenous inhibitors such as anti-thrombin III (serpin C1) or heparin cofactor II (serpin D1). A plasma serine protease, thrombin is synthesized in the liver as a 622 amino acid precursor with a 24 amino acid signal peptide. Cleavage by itself or by similar enzymes converts the proenzyme to three forms designated as  $\alpha$ -,  $\beta$ - and  $\gamma$ -thrombin. Composed of a disulfide bond-linked dimer of the light chain (A) (residues 328-363) and the heavy chain (B) (residues 364-622),  $\alpha$ -thrombin displays the diverse functions as described above. In comparison, the further processed B chains of  $\beta$ - and  $\gamma$ -thrombin have no known physiological function, but retain most of the activity towards small synthetic substrates (4).

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