MONOCLONAL ANTIBODY TO HUMAN PROTEINASE 3 (PR3)
close PR3G-2

Catalog nr HM2172 (lot number and expiry date are indicated on the label)

Description Monoclonal antibody PR3G-2 reacts with human proteinase 3 (PR3), a 30 kDa protein. PR3 is a major antigen recognized by autoantibodies directed against cytoplasmic proteins of neutrophilic granulocytes and monocytes (called anti-neutrophil cytoplasmic autoantibodies (ANCA)). ANCA are able to activate primed neutrophils to produce oxygen radicals and release lytic enzymes, including PR3. Proteinase 3 (PR3) was identified as the target antigen of ANCA in Wegener’s granulomatosis (WG). ANCA directed against PR3 (PR3-ANCA) can interfere with the binding of PR3 to its physiological inhibitor alpha1-antitrypsin (alpha1-AT) and with the proteolytic activity of PR3. At the site of inflammation, PR3 can cleave the PR3-ANCA complex between these inhibiting ANCA and PR3 itself, leaving active PR3. Autoantibodies to PR3 are potent activators of the 5-lipoxygenase pathway in primed human neutrophils. Extracellular free arachidonic acid, as present at an inflammatory focus, synergizes with such autoantibodies to evoke full-blown lipid mediator generation, granule secretion and respiratory burst. Proteinase 3 (PR3) is a neutral serine proteinase, which is localized in the azurophilic granules of neutrophils and in granules of monocytes and can be detected in the membrane of secretory vesicles. PR3 degrades a number of extracellular matrix proteins such as elastin and inactivates human C1 inhibitor. Membrane-associated PR3 is also able to activate caspase-3 without triggering apoptosis of neutrophils, which is possibly a neutrophil survival mechanism. In addition, PR3 is involved in myeloid differentiation and is, therefore, also called myeloblastin. The monoclonal antibody PR3-G2 was produced by immunization of mice with a crude granule extract.

Species Mouse IgG1

Formulation 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.

Application The monoclonal antibody PR3G-2 can be used for immunohistology on frozen sections and flow cytometry. Furthermore, the monoclonal antibody PR3G-2 is useful for immuno assays and Western blotting. The monoclonal antibody PR3G-2 does not inhibit the biological activity of PR-3.

Use For immunohistology, flow cytometry and Western blotting dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

Storage and stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.

Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.


Also available
- HM2172F FITC conjugated monoclonal antibody against Human Proteinase 3, clone PR3G-2
- HM2171 Monoclonal antibody against Human Proteinase 3, clone WGM2
- HM2156 Monoclonal antibody against Human Calprotectin, clone 27E10
- HM2164 Monoclonal antibody against Human MPO, clone 266-6K1
- HM2173 Monoclonal antibody against Human Lactoferrin, clone 265-3K3
- HM2174 Monoclonal antibody against Human Elastase, clone 265-3K1

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