

**MONOCLONAL ANTIBODY TO HUMAN BACTERICIDAL
PERMEABILITY INCREASING PROTEIN (BPI)
clone 4E3**



Catalog nr	HM2170 (lot number and expiry date are indicated on the label)										
Description	<p>The monoclonal antibody 4E3 reacts specifically with full length human natural and recombinant Bactericidal Permeability Increasing protein (BPI). The antimicrobial protein BPI is a 55 kDa protein found in the primary (azurophilic) granules of human neutrophils and has also been detected on surface of neutrophils, small intestinal and oral epithelial cells. BPI is a bactericidal compound that is present in polymorphonuclear cells (PMN) and in lower levels in the specific granules of eosinophils. BPI possesses high affinity toward the lipid A region of lipopolysaccharides (LPS) that comprise the outer leaflet of the gram-negative bacterial outer membrane. Binding of BPI to the lipid A moiety of LPS exerts multiple anti-infective activities against gram-negative bacteria: 1) cytotoxicity via sequential damage to bacterial outer and inner lipid membranes, 2) neutralization of gram-negative bacterial LPS, 3) opsonization of bacteria to enhance phagocytosis by neutrophils. Airway epithelial cells constitutively express the BPI gene and produce the BPI protein and, therefore, BPI may be a critical determinant in the development of LPS-triggered airways disease. Inflammation induced by LPS possibly contributes to the development of rapid airflow decline, a serious and often fatal complication of hematopoietic cell transplantation. Furthermore, a 21 kDa bioactive recombinant fragment of BPI, rBPI₂₁, was shown to confer a survival advantage against invasive pneumococcal disease by binding to the gram-positive bacterial pathogen, pneumolysin.</p> <p>The monoclonal antibody 4E3 recognizes only free BPI and does not interact with BPI that has formed a complex with LPS.</p>										
Species	Mouse IgG ₁										
Formulation	1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin.										
Application	The monoclonal antibody 4E3 can be used for immuno assays both as coating and as detector. Furthermore the monoclonal antibody 4E3 is useful for flow cytometry and for biological inhibition assays.										
Use	For flow cytometry 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. For neutralization of biological activity <i>in vitro</i> dilutions have to be made according to the amounts of BPI to be inactivated.										
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 with the use or derivation of this product.										
References	<ol style="list-style-type: none">1. Dentener, M et al; Antagonistic effects of lipopolysaccharide binding protein and bactericidal/permeability-increasing protein on lipopolysaccharide-induced cytokine release by mononuclear phagocytes. <i>J Immunol</i> 1993, <i>151</i>: 42582. Dentener, M et al; Characterization of two monoclonal antibodies directed against bactericidal/permeability-increasing protein. <i>J Infect Dis</i> 1994, <i>170</i>: 14833. Dentener, M et al; Bactericidal/permeability-increasing protein, a lipopolysaccharide-specific protein on the surface of human peripheral blood monocytes. <i>J Infect Dis</i> 1996, <i>173</i>: 2524. Chien, J et al ; Genetic variation in bactericidal/permeability increasing protein influences the risk of developing rapid airflow decline after hematopoietic cell transplantation. <i>Blood</i> 2006, <i>107</i>: 2000										
Also available	<table><tr><td>HM2040</td><td>Monoclonal antibody against Human LBP, clone 6G3</td></tr><tr><td>HM2041</td><td>Monoclonal antibody against Human BPI, clone 3F9</td></tr><tr><td>HM2042</td><td>Monoclonal antibody against Human BPI, clone 4H5</td></tr><tr><td>HM2043</td><td>Monoclonal antibody against Human CD14, clone MEM-18</td></tr><tr><td>HP9022</td><td>Polyclonal antibody against Human BPI</td></tr></table>	HM2040	Monoclonal antibody against Human LBP, clone 6G3	HM2041	Monoclonal antibody against Human BPI, clone 3F9	HM2042	Monoclonal antibody against Human BPI, clone 4H5	HM2043	Monoclonal antibody against Human CD14, clone MEM-18	HP9022	Polyclonal antibody against Human BPI
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