

**POLYCLONAL ANTIBODY TO  
HUMAN SURFACTANT PROTEIN B (SP-B)**  
Cross reactive with mouse, bovine and pig SP-B



<b>Catalog nr</b>	HP9049 (lot number and expiry date are indicated on the label)
<b>Description</b>	<p>The polyclonal antibody recognizes the human surfactant protein B (SP-B). There are four surfactant-specific proteins, designated surfactant protein A (SP-A), SP-B, SP-C and SP-D respectively. SP-A and SP-D are hydrophilic surfactant proteins and are members of the collectin family. SP-B and SP-C are hydrophobic surfactant proteins and may be the most appropriate indicators for the evolutionary origin of surfactant.</p> <p>SP-B is synthesized by the alveolar type II epithelial cells as a 40-42 kD precursor that is subsequently proteolytically processed to 7.8-8 kD. SP-B enhances the spreading and stability of surfactant phospholipids in the alveolus. SP-B is essential for air-breathing in mammals and is therefore largely conserved. SP-B can interact with both phospholipid head groups and fatty chains and is particularly active in enhancing surface active behaviour in endogenous and exogenous lung surfactants. Even low SP-B contents had measurable effects in increasing the adsorption, dynamic surface tension lowering, and/or film respreading of DPPC, mixed synthetic lipids, and column-purified lung surfactant phospholipids. Deficiency of SP-B and other surfactant components is associated with respiratory distress syndrome (RDS) in premature infants and adults with respiratory distress syndrome (ARDS).</p> <p>The polyclonal antibody is raised against human-based 60-amino acid synthetic SP-B polypeptide. The antibody recognizes proteins of 42, 25 and 18 kD under nonreducing conditions. The 18 kD form is reduced to 7.7-8 kD in the presence of beta-mercaptoethanol.</p> <p>The polyclonal antibody is cross reactive with mouse, bovine and pig SP-B.</p>
<b>Aliases</b>	SFTPB, previous SFTP3
<b>Species</b>	Rabbit IgG
<b>Formulation</b>	1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.
<b>Application</b>	The polyclonal antibody can be used for immuno assays and Western blotting. Furthermore the polyclonal antibody is useful for immunohistology on both frozen and paraffin sections.
<b>Use</b>	For immunohistology 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.
<b>Storage and stability</b>	Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.
<b>Precautions</b>	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.
<b>References</b>	<ol style="list-style-type: none"><li>Whitsett, J et al; Immunologic identification of a pulmonary surfactant-associated protein of molecular weight = 6000 daltons. <i>Pediatr Res</i> 1986, 20: 744</li><li>Weaver, T et al; Identification of surfactant proteolipid SP-B in human surfactant and fetal lung. <i>J Appl Physiol</i> 1988, 65: 982</li><li>Gregory, T et al; Surfactant chemical composition and biophysical activity in acute respiratory distress syndrome. <i>J Clin Invest</i> 1991, 88: 1976</li><li>Clarck, J et al; Targeted disruption of the surfactant protein B gene disrupts surfactant homeostasis, causing respiratory failure in newborn mice. <i>PNAS</i> 1995, 92: 7794</li><li>Nogee, L et al; Allelic heterogeneity in hereditary surfactant protein B (SP-B) deficiency. <i>Am J Respir Crit Care Med</i> 2000, 161: 973</li></ol>
<b>Also available</b>	HP7002 Polyclonal antibody against Pig SP-B HP7002 Polyclonal antibody against Human SP-B HP9050 Polyclonal antibody against Human SP-C HM3022 Monoclonal antibody against Human SP-D, clone IIIH3