

**Recombinant Protein A  
(rProteinA)  
Catalog Number: 1001-01**

<b>Description</b>	Protein A, similar to Protein G, is an immunoglobulin-binding protein expressed in group C and G <i>Streptococcal</i> bacteria but with different specificities. Protein A may be conjugated with various reporter molecules including fluorescent dyes (FITC), enzyme markers (peroxidase, $\beta$ -galactosidase, alkaline phosphatase), biotin, and colloidal gold without affecting the antibody binding site on the molecule. Additionally, Protein A may be immobilized on a solid support such as agarose or acrylic beads for the purification of either polyclonal or monoclonal immunoglobulins. It is also routinely used for immunoprecipitation assays. Protein A is a cell wall component produced by several strains of <i>Staphylococcus aureus</i> that consists of a single polypeptide chain and contains little or no carbohydrate. The Protein A molecule contains four high-affinity ( $K_a = 10^8$ /mole) binding sites capable of interacting with the Fc region from IgG of several species including human and rabbit. Optimal binding occurs at pH 8.2, although binding also exists between pH 7.0- 7.6.
<b>Source</b>	<i>Escherichia coli</i>
<b>Molecular Weight</b>	Approximately 45kDa, consisting of 5 IgG binding domains E-D-A-B-C aligned in series.
<b>A<sub>280</sub> of 0.1% solution</b>	~0.165
<b>Purity</b>	>95% by SDS-PAGE analyses.
<b>Specificity</b>	The interaction between Protein A and IgG is not equivalent for all species. Even within a species, Protein A interacts with some subclasses of IgG and not others. For instance, human IgG1, IgG2 and IgG4 bind strongly, while IgG3 does not bind. There are also many instances in which monoclonal antibodies do not bind to Protein A, especially the majority of rat immunoglobulins and mouse IgG <sub>1</sub> .
<b>Physical Appearance</b>	White lyophilized powder.
<b>Formulation</b>	Lyophilized with no additives.
<b>Endotoxin</b>	< 1EU/ $\mu$ g of growth factor as determined by LAL method.
<b>Reconstitution</b>	Reconstitute in sterile distilled water or saline.
<b>Storage</b>	Store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.
<b>Usage</b>	This product is for research use only. It is not approved for use in humans, animals, or <i>in vitro</i> diagnostic procedures.