PRODUCT INFORMATION
Anti-Blood Group Specific Lectin
(B-Series)

Catalog Number: B-2901-2

Description: Anti-B *Sophora japonica* Lectin (SJA)

Blood Group Specificity: Anti-B

Lot Number:

Concentration: (Based on OD 280) 2 mg / vial. Reconstitute with 2ml Buffer.

Buffer: TBS pH = 8.7

Titer:

_____ against A1 blood group

_____ against A2 blood group

_____4 / 15 minutes__ against B blood group

_____ against O (H) blood group

_____ against M blood group

_____ against N blood group

_____ against Neuraminidase treated _____ cells

_____ against T_k activated blood cells

_____ against T_____ activated blood cells

Note: The titer is based on hemagglutination formation after 15 minutes incubation at room temperature. One drop of appropriately diluted anti-blood group lectin is incubated with one drop of 3% red blood cells. The lectin must be diluted in the Buffer to guarantee the titers listed.

Storage: Store lyophilized powder refrigerated at 5-8°C or frozen. Store liquid frozen in aliquots. Avoid freeze-thaw cycles. Clarify by centrifugation.

Stability: The lyophilized material is stable for several years when stored frozen. After reconstitution the material is stable for at least 2 months when stored frozen in aliquots with 0.05% sodium azide added as a preservative.

Caution: Refer to the enclosed MSDS for information regarding lectins. The aluminum seals have sharp edges and the vial itself may have cracks which can cause lacerations. Use caution when opening the vial.

EY LABORATORIES, INC.
107 North Amphlett Blvd.
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(Outside CA only)

PRODUCT INFORMATION
Anti-Blood Group Specific Lectin

It has been known that extracts of certain plant seeds will agglutinate human erythrocytes (1-5). Many of these plant agglutinins (lectins) were purified and their physical, chemical and carbohydrate binding properties investigated (6,7). They are used extensively in immunohematology as blood typing reagents and in the study of polyagglutination of red blood cells. In earlier studies, clear saline extracts from ground seeds (after centrifugation) were used as reagents. Such preparations showed great variations in lectin concentration from batch to batch and thus it is very difficult to standardize. However, recent developments and improvements of isolation methodology has made it possible to purify a variety of lectins to homogeneity by affinity chromatography. Using EY Laboratories' affinity purified lectins, it will be able to minimize fluctuations among batches, since homogeneous lectin reagents can be prepared at a defined concentration.

Anti-Blood Group Typing reagents Used in Immunohematology

Anti-A_1

In routine blood group serology, it is a common practice to use antisera for typing blood group ABO. However, when testing for the subgroups of A, extracts or the purified lectins from *Dolichos biflorus* (DBA) and *Ulex europaeus* (UEA) (9) can be used. DBA reacts strongly with subgroup A1 less strongly with A2 and not at all with the other subgroups of A. By suitable dilution, a specific Anti-A_1 reagent can be prepared from DBA which is more potent and avid than most, if not all, the Anti-A_1 reagents prepared from human serum. UEA is a good reagent for Anti-H (0) and reacts strongly with A_2 than with A_1. The proper choosing of a dilution and using DBA and UEA in parallel will enable one to distinguish between the subgroups A_1 and A_2. Another lectin similar to UEA in distinguishing between A_1 and A_2 is *Evonymus europeus* agglutinin (10). It was also found that EY Laboratories' affinity purified DBA did not react with O or B cells suspended in albumin or treated with enzymes as other Anti-A lectin preparations tend to do.

Anti-H (0)

The affinity purified UEA I and *Lotus tetragonolobus* agglutinin (Lotus A) of EY laboratories may be used as good Anti-H (0) reagents (11). UEA I is also valuable in classifying saliva (14). *Cytisus sessilifolius* agglutinin (CSA) is also found to agglutinate) red blood cells (15).

Anti-B

The purified isolectin *Bandeiraea simplicifolia* agglutinin I (BSA I) is known to have Anti-A and Anti-B blood group agglutination activity. In the presence of N-acetyl-D-galactosamine (GalNAc) in solution which inhibits the Anti A activity, BSA-I acts as an Anti-B reagent (12). Similarly, purified *Sophora japonica* of EY Laboratories can also act as an Anti B agent. When used as a routine Anti-B reagent, BSA-I, in the presence of GalNAc, did not work out as well as Anti-B antisera. However, due to their specific carbohydrate binding properties, they are more valuable for use as a reagent in investigating immunohematology rather than as an alternative to human group A serum (as a source of Anti-B for blood typing purposes (13).

Anti-T, Tn, Tk, Cad_1, Cad_2, Cad_3, HEMPAS and MN

EY laboratories' purified DBA, LBA, SJA, HPA, SBA, PNA, BSA-I and BSA-II and many others can be used in study of immunohematology as reagents of Anti-T, Tn and etc. In this field, not much research has been done using purified lectins. With the availability of high quality purified lectins from EY Laboratories as a reagent from the shelves, researchers may be able to study more effectively the relationship between defective cells and diseases, such as tumor and cancer.

Erythrocyte Polyagglutination

In routine blood grouping and cross matching, polyagglutination of red blood cells is one of the important sources of error and delay. Lectins are a useful serological tool in the investigation and elucidation of polyagglutination and the study of erythrocytes with various membrane defects. Correct identification of the type of erythrocyte polyagglutination may be a laborious procedure. However, in many instances, the use of certain lectins enables rapid provisional identification to be made (17). Using peanut agglutin (PNA) in conjunction with *Salvia sclarea*, *Salvia horminum* and *Dolichos biflorus* agglutinins, it is possible to distinguish the main forms of red blood cell polyagglutination regardless of any specific type of blood group A, B, or O.

Type	Dolichos biflorus	Arachis hypogaea	Salvia sclarea (in saline)	Salvia horminum
T	+	−	+	+
Tk	+	−	+	+
Tn	−	+	−	−
Cad	−	+	+	−

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MATERIAL SAFETY DATA SHEET

Effective Date: March 31, 2006
Revision 5

PRODUCT IDENTIFICATION

Name: Crude and purified protein and enzymes.

Catalog Number (s): P-01, 2402, 2404, EC-32118, EC-32118S, E-34424, EC-34424, BA-000, BA-002, NP-01 to NP-05, B-1201 to B-4601, L-1102 to L-9000, AT-2100 to AT-2701, AF-001 to AF-2354, AL-1104 to AL-4701, 13-600 to 13-607, DM1011P to DM1064P.

Formula: Complex polypeptides.

Synonyms: Protein A, Horseradish Peroxidase, Laminin (mouse), Neuraminidase, Bromelain, Avidin (egg white), Glycosylated Bovine Serum Albumin, Lectins, Secondary and Monoclonal Antibodies, other Antisera.

EMERGENCY INFORMATION

EY Laboratories, Inc.
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EMERGENCY PHONE:
650-342-3296

HAZARDOUS COMPONENTS

Specific protein (s) as listed on the vial label. Solutions are at a concentration generally greater than 0.5mg protein/ml. Powders are generally greater than 95% specific protein unless otherwise indicated on the vial label or product information sheet. Biological activity of these proteins will vary. Although these materials are not generally considered to be hazardous they may cause allergic responses in sensitive individuals if inhaled or allowed to contact skin.

HEALTH HAZARD INFORMATION

EXPOSURE LIMITS: None established. The toxicological properties of these products have not been thoroughly investigated. Care should be taken when handling any of these materials.

EFFECTS OF OVEREXPOSURE: Any of these proteins may cause acute localized eye, skin, or mucous membrane irritation. Some sensitive individuals may develop a chronic allergic reaction with exposure.

ROUTES OF EXPOSURE: Inhalation of powders and skin contact with liquids are the primary routes of exposure. Care should be taken to avoid the formation of aerosols when handling any of the solutions.

PHYSICAL CHARACTERISTICS

APPEARANCE: Powders may be white to amber brown in color. Solutions may be translucent to a clear brown

SOLUBILITY: Powders are completely soluble in many biological buffers. Some are soluble in water. All liquids are completely miscible in water and biological buffers.

FIRE AND EXPLOSION HAZARDS

Not considered to be a fire hazard.

EXTINGUISHING MEDIA: Water spray or CO_2.

SPECIAL FIRE FIGHTING PRECAUTIONS: None required.

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NOTE: Most solutions contain 0.05% sodium azide as a preservative. Azide may react with lead and copper plumbing to form explosive metal azides. Flush with copious amounts of water when disposing material in the sink.

REACTIVITY DATA

STABILITY: Stable. Decomposition products are not known to be hazardous.

HAZARDOUS POLYMERIZATION: Will NOT occur.

INCOMPATIBILITY: None known. (Lead and copper may react with sodium azide).

SPILL / LEAK PROCEDURES

MATERIAL RELEASE / SPILL: Avoid contact with powder or liquid. Clean up spill with a paper towel soaked in household bleach. Do not allow solutions to dry on environmental surfaces. Wash affected area with detergent after the area has been treated with bleach.

WASTE DISPOSAL: Incinerate, autoclave, or dispose of paper waste in accordance with all Local, State, and Federal regulations. Due to the small quantities of material involved these products are generally not considered to be environmental hazards. All of these proteins are fully biodegradable.

EMERGENCY FIRST AID PROCEDURES

May be harmful if swallowed, inhaled, or allowed to absorb through the skin. Wash contacted area with water for 15 minutes. If inhaled remove to fresh air. Report exposure to the appropriate safety official. Consult a physician if irritation occurs or if there is any indication of an allergic response such as watering eyes, sneezing, or difficulty breathing

SPECIAL HANDLING PRECAUTIONS

VENTILATION: No special ventilation is required but it is recommended to handle these reagents in a fume hood when possible.

EYE PROTECTION: Not required under most circumstances but recommended as a safety precaution.

RESPIRATORY PROTECTION: Recommended as a safety precaution, specifically when working with powders. An approved respirator may be required for those individuals already known to be sensitive to these materials.

PROTECTIVE GLOVES: Required when handling any of these materials.

SPECIAL PRECAUTIONS

This material is for research and experimental application only. It is not intended for food, drug, household, agricultural, or cosmetic use. All materials should be handled only by technically qualified individuals experienced with working with potentially hazardous chemicals. The above information is correct to the best of our knowledge. The user should make independent decisions regarding completeness of the information, based on all sources available. EY Laboratories, Inc. shall not be held liable for any damage resulting from handling or contact with the above product.

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