PRODUCT INFORMATION
Biotin Labeled Lectin

Catalog Number: BA-4601-2

Description: Pure *Vicia villosa* lectin (VVA) from hairy vetch, Biotin conjugated.

Lot Number:

Protein Concentration: (Based on OD 280) 2 mg/ml pure VVA Biotin / vial.

Carbohydrate Specificity: N-Acetylgalactosamine

Inhibitory Carbohydrate: N-Acetylgalactosamine.

Activity: More than 250 µg/ml is usually required to agglutinate type A1 cells. Less than 1 µg/ml will agglutinate neuraminidase treated cells regardless of blood type.

Buffer: 0.01M Phosphate - 0.15M NaCl, pH 7.2 - 7.4.

Chemical Used for Conjugation: Biotinyl N - hydroxysuccinimide ester (BNOHSE).

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

Stability: The lyophilized material is stable for several years when stored frozen. After reconstitution the material is stable for at least 1 year 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.

Procedure for Use: See reverse side.

Remarks: The purification technique used by EY Laboratories, Inc. yields a lectin that is weakly reactive by A, erythrocytes. The lectin reacts strongly neuraminidase treated cells.

References:

1. Kimura, A., et al. (1979) J. Exp. Med. **149** : 473-484.
2. Grubhoffer, L., et al. (1981) Biochem. J. **195** : 623-626.
3. Tollefsen, S. E. and Kornfeld, R. (1983) J. Biol. Chem. **258** : 5165-5171.
4. Tollefsen, S. E. and Kornfeld, R. (1984) Biochem. Biophys. Res. Comm. **123** : 1099.
5. Bailly, P., et al. (1985) Glycoconjugate Jour. **2** : 401.
6. Brines, R. and Lehner, T. (1988) Immunology. **63** : 247-254.
7. Kitamura, K., et al. (1988) J. Immunol. **140** : 1385.
8. Kelly, C. J., et al. (1988) J. Immuno. **141** : 3022-3028.
9. Fortune, F. and Lehner, T. (1988) Clin. Exp. Immunol. **74** : 100-104.
10. Schoenbeck, S., et al. (1989) J. Exp. Med. **169** : 1491-1496.
11. Almeida, B. M., et al. (1989) Virchows Arch. **414** : 173-178.

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(Outside CA only)

General Procedure

The following is a general Procedure and Trouble-Shooting Guide. The information is provided only for your convenience. The success of your experiments are not guaranteed by EY Laboratories, Inc.

1. Wash and block tissue section or blot. EY Laboratories, Inc. recommends that 1% purified Bovine Serum Albumin (BSA) or defatted milk powder be used for blocking to prevent non-specific binding. Do not use serum products, they contain glycoproteins which may lead to high levels of non specific background. After blocking, rinse briefly with recommended Buffer.

2. Dilute **Biotin Labeled Lectin** to a concentration of 5-50 µg/ml using recommended Buffer. Incubate section or blot for 30-90 minutes at room temperature in a moist chamber. Slightly longer incubation times may be required if incubation is done at 2-8°C. Rinse 3 times, 5 minutes *each* time with recommended Buffer.

3. Dilute and incubate **Avidin Conjugate** according to manufacturer directions.

Notes: Inhibition of lectin binding may be accomplished by using one of two procedures:

A. Before proceeding to **Step #3** incubate lectin treated section or blot with inhibitory carbohydrate for 30-60 minutes at room temperature. NOTE: Complete inhibition may not occur.

B. Preincubate diluted **Biotin Labeled Lectin** with inhibitory carbohydrate for 30-60 minutes at room temperature before applying to section or blot.

TROUBLE SHOOTING GUIDE

Problem	Cause	Solution
Weak or no Staining	1. Low concentration of specific oligosaccharide on sample. 2. Low concentration of lectin conjugate. 3. Low concentration of avidin conjugate. 4. Insufficient incubation time. 5. Inappropriate treatment of sample prior to labeling.	Causes #1 - #4 a. Increase incubation time. b. Increase concentration of sample (on blot) lectin conjugate and/or avidin conjugate. a. Treat section or blot with a different blocking reagent.
High Background	1. Lectin conjugate and/or avidin conjugate is too concentrated. 2. Insufficient washing. 3. Insufficient blocking. 4. Sample contains endogenous enzymatic activity.	a. Decrease concentration of respective reagents. b. Shorten incubation times. a. Perform multiple washings and prolong washing time. a. Treat section or blot with a different blocking reagent. a. Determine if sample contains activity which would give background staining in the absence of the avidin conjugate.
Unexpected Staining Pattern	Multiple causes	a. Perform control reactions. b. Use other cytochemical technique to prove or disprove the findings.

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MATERIAL SAFETY DATA SHEET

Effective Date: March 31, 2006
Revision 5

PRODUCT IDENTIFICATION

Name:	Purified proteins and enzymes labeled with D-Biotin.
Catalog Number(s):	BAP-01, BA-1102 to BA-9000, BAF-001 to BAF-2354, BAL-1104 to BAL-4701, BA-01 to BA-013, BA-108, BA-109, BA-111, BA-118, BA-119, BA-120, BA-121, BAT-2100 to BAT-2701.
Formula:	Complex polypeptides labeled with D-Biotin
Synonyms:	Protein A, Lectins, Secondary and Monoclonal Antibodies, Horseradish Peroxidase, Alkaline Phosphatase, Lactoperoxidase, Ferritin, and Urease labeled with D-Biotin.
NOTE:	D-Biotin is also known as vitamin H.

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 >>95% pure protein unless otherwise indicated on the vial label. Biological activity of these labeled proteins will vary. Vitamin H is an essential vitamin, required in very low amounts. The concentration of bound biotin is less than 10% of the protein amount (w/w). All solutions contain less than 0.05% sodium azide as a preservative.

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:	May cause localized eye, skin, or mucous membrane irritation. Some sensitive individuals may develop a chronic allergic reaction with exposure. The known effects are due to the protein.
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 are white to brown. Solutions will be clear to dark brown or red.
SOLUBILITY:	Powders are completely soluble in many biological buffers and water. All liquids are completely miscible in water and biological buffers.

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FIRE AND EXPLOSION HAZARDS

	Not considered to be a fire hazard.
EXTINGUISHING MEDIA:	Water spray or CO_2.
SPECIAL FIRE FIGHTING NOTE:	None required.
NOTE:	Most solutions contain less than 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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