ImmunoBioScience Corp. (IBSC) *DATA SHEET*

Biotin conjugated WGA (Wheat Germ agglutinin, *Triticum vulgaris)*

**Catalog number:**  LE-6881-11

**Description:** Wheat germ agglutinin (WGA) (MW 36 kDa) is a dimeric, carbohydrate-free protein composed of two identical subunits. The amino acid sequence provides a figure of 21,600, based on 171 amino acids per polypeptide chain. The protein dissociates into monomers in acidic media, pK of the reaction 4. The receptor sugar for WGA is N-acetyl glucosamine (GlcNAc), GlcNacβ14GlcNAc. These structures are present in many serum and membrane glycoproteins, bacterial cell wall peptidoglycans, chitin, cartilage glycosaminogyycons and glycolipids. Native WGA also react with glycoproteins with sialic acid residue. This lectin is useful for the purification of insulin receptors, serum proteins and neuronal tracing. The carbohydrate-binding specificity of WGA has been studied by variety of techniques, such as hapten inhibition of hemagglutination and specific precipitation of glycoconjugate, changes in fluorescence of the lectin (intrinsic) or of chromatogenic ligands (extrinsic), equilibrium dialysis, NMR and x-ray diffraction.

**Unit**: 1 ml **Concentration:** 5 mg/ml

**Conjugation:** Affinity purified WGA is conjugated with Biotin and purified in gel filtration column.

**Intended Use**: Histochemistry 1: 250-1:1000; WB 1:500-1:2,500; ELISA 1:500-1:2,500.

Dilute biotinylated lectin in PBS containing 0.1 mM calcium chloride ions.

For Histochemistry the tissues are processed same as for Immunohistochemistry, after blocking step biotinylated lectin is applied followed by streptavidin conjugated to enzyme and chromogen. For WB incubate membrane with blocking protein followed by biotinylated lectin, streptavidin enzyme conjugate and chromogen. For ELISA the target proteins are absorbed on ELISA plate at a concentration of 5-10 µg/ml (50-100 µl), followed by blocking with protein solution, Biotinylated lectin, Streptavidin enzyme conjugate, ELISA substrate. Please refer to Histochemistry, WB and ELISA protocol for detail information.

The optimum dilution should be determined by the individual lab.

**Storage: Storage**: 2-8°C

**Buffer:** 10 mM phosphate, 150 mM NaCl, pH 7.6, 0.1 mM Calcium chloride and 0.05% sodium azide.

**If the precipitate appears, warm the solution to 37-40°C and mix well.**

**Inhibiting/Eluting sugars:** 500 mM GlcNAc, dimer, trimmer or 100 mM acetic acid.

**Carbohydrate-Binding Specificity of WGA:**  Pentaacetylchitopentaose >Tetraacetylchitotetraose > triacetylchitotriose > Diacetylchitobiose > GlcNAc

**References:**

1. Aub, J. C et. al. Proc. Natl. Acad. Sci. U.S.A.50, 613-619, 1963
2. Nagata, Y and Burger, A.R. J. Biol. Chem. 247: 2248-2250, 1972
3. Goldstein, I. J et. al. Biochim. Biophys. Acta. 405, 63-67, 1975
4. Wright, , C. S, J Mol. Biol. 178: 91-104, 1984

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