ALPHA DIAGNOSTIC INTERNATIONAL

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Product Data Sheet

Aleuria Aurantia Lectin (AAL) and conjugates

½ cat # AAL15-UL	Aleuria Aurantia Lectin, purified, , unlabeled	1 mg
½ cat # AAL15-BTN	Aleuria Aurantia Lectin-biotin conjugate	0.5 ml
½ cat # AAL15-HRP	Aleuria Aurantia Lectin-HRP conjugate	0.5 ml
½ cat # AAL15-FITC	Aleuria Aurantia Lectin-FITC conjugate	0.5 ml

Lectins are proteins or glycoproteins of non-immune origin that agglutinate cells and/or precipitate complex carbohydrates. Lectins are capable of binding glycoproteins even in presence of various detergents. The agglutination activity of these highly specific carbohydrate-binding molecules is usually inhibited by a simple monosaccharide, but for some lectins, di, tri, and even polysaccharides are required. Lectins are isolated from a wide variety of natural sources, including seeds, plant roots and bark, fungi, bacteria, seaweed and sponges, mollusks, fish eggs, body fluids of invertebrates and lower vertebrates, and from mammalian cell membranes. The precise physiological role of lectins in nature is still unknown, but they have proved to be very valuable in a wide variety of applications in vitro, including:

1. Blood grouping and erythrocyte agglutination studies.
2. Mitogenic stimulation of lymphocytes.
3. Lymphocyte subpopulation studies.
4. Fractionation of cells and other particles.
5. Histochemical studies of normal and pathological conditions.

Aleuria Aurantia Lectin (AAL) is a dimer of two identical subunits of about 36 kDa each. each monomer being organised into a six-bladed beta-propeller fold and a small antiparallel two-stranded beta-sheet. The beta-propeller fold is important in fucose recognition; five binding pockets are found between the propeller blades. The small beta-sheet, on the other hand, is involved in the dimerisation process Unlike Ulex europaeus and Lotus tetragonolobus lectins which prefer (α -1,2) linked fucose residues, Aleuria aurantia lectin binds preferentially to fucose linked (α -1,6) to N-acetylglucosamine or to fucose linked (α -1,3) to N-acetyllactosamine related structures. AAL also reversibly binds fucose attached to nucleic acids. AAL hemagglutinates erythrocytes irrespective of blood type (A, B and 0) at the same titers as AAL isolated from natural sources. AAL has been widely used for analysis and preparation of oligosaccharides and glycoproteins. Diagnostic applications include analysis of disease-associated glycosylation on plasma proteins. Furhtermore, rAAL can be immobilized and used for affinity chromatography (5).

Recombinant (E. coli) Purified AAL was coupled to HRP, biotin or FITC using proprietary methods.

Form and Storage

Cat # AAL15-UL

Recombinant *Aleuria aurantia* lectin is produced in E.coli and has an amino acid sequence identical to native *Aleuria aurantia* lectin. It is supplied as lyophilized powder in 10 mM HEPES buffered saline, pH 8.5, 0.1 mM CacI2. Reconstitute powder in water or other desirable buffers. Store powder at 4oC and AAL solutions at -20oC. Stability of the powder is 5 years and frozen liquid 6-12 months.

Cat# AAL15-BTN, Biotin-conjugate

Purified AAL was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC**)** at F/P ratio ~10-20:1. The antibody is supplied in 10 mM HEPES, pH 7.5, 0.15 M NaCl, 0.08% azide. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1,000-1:10,000 ELISA, 1:2K-1:10K for western.

Binding inhibitors: 100-400 mM L-fucose

Cat# AAL15-HRP, HRP-conjugate

Purified Purified AAL was coupled to HRP (RZ>3.0) using periodate method. The molar enzyme to protein (E/P) ratio = 4.0. The antibody is supplied in stabilizing buffer, 0.1% prolcin-300 as preservative in either **lyophilized** (0.5 ml) or **liquid** form (0.5-0.5 mg/ml). Reconstitute powder in water. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1,000-1:10,000 ELISA, 1:1K-1:5K for western, and 1:200-1:1000 (IHC).

Binding inhibitors: 100-400 mM L-fucose

Cat# AAL15-FITC, FITC-conjugate

Purified AAL was coupled to FITC at F/P ratio ~3:7. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.5 ml) or **liquid** form (0.5 mg/0.5 ml). Reconstitute powder in water in 0.5 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:200-1:2000 for immunofluorescence.
Absorption Wavelength: 495 nm
Emission Wavelength: 528 nm
Binding inhibitors: 100-400 mM L-fucose

References: Bergstrom M (2011) J Chromatogr B Analyt Technol Biomed Life Sci. 879, 75-82; Wimmerova M (2003) JBC 278, 27059-27069; Olausson J (2008) Glycoconj J. 25:753-62; Yazawa S (1990) Immunol Invest.19:319-27; Hashimoto S (2004) Cancer 101:2825-36.

For in vitro Research use only (RUO)

AAL15-Aleuria-Aurantia-Lectin 150610A

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