



上海源叶生物科技有限公司  
Shanghai yuanye Bio-Technology Co., Ltd  
电话: 021-61312973 传真: 021-55068248  
网址: [www.shyuanye.com](http://www.shyuanye.com)  
邮箱: [shyysw@sina.com](mailto:shyysw@sina.com)

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## 麦胚凝集素

### **Lectin:**

from *Triticum vulgaris*

Storage Temperature 2-8 °C

### **Product Description:**

At low pH (below pH 3), this lectin is a monomer (17 kDa by sedimentation velocity). However, it is a dimer (35 kDa by sedimentation velocity) at neutral to slightly acidic pH. By SDS-PAGE analysis, the monomers migrate as 18 kDa proteins.

The absorption maximum ( $\lambda_{\max}$ ) for the native dimer is 272 nm with a molar extinction coefficient (EM) of  $1.09 \times 10^5$ . The pI varies by lectin isoform (isolectins I, IIa, III - pI = 8.7 +/- 0.3 and isolectin IIb - pI = 7.7 +/- 0.3).

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 polyagglutination studies.
2. mitogenic stimulation of lymphocytes.
3. lymphocyte subpopulation studies.
4. fractionation of cells and other particles.



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## 5. histochemical studies of normal and pathological conditions.

Many of the lectins are available conjugated to (conjugation does not alter the specificity of the lectin):

1. fluorochromes (for detection by fluorimetry).
2. enzymes (for enzyme-linked assays).
3. insoluble matrices (for use as affinity media).

The inhibition of agglutination activity by di-N-acetylglucosamine (GlcNAc)<sub>2</sub> on this wheat germ lectin is reported to be approximately 600 times greater than that of N-acetylglucosamine (GlcNAc). Tri-N-acetylglucosamine (GlcNAc)<sub>3</sub> is reported to be about 3000 times more inhibitory than GlcNAc.

### **Precautions and Disclaimer:**

For Laboratory Use Only. Not for drug, household or other uses.

### **Preparation Instructions:**

This lectin is soluble in phosphate buffered saline, pH 7.2 (1 mg/ml).

The maximum solubility in 1 mM Tris-HCl, pH 7.4, is reported to be approximately 1 mg/ml. Solubility is greatly increased at low pH (maximum solubility in 0.1 M acetic acid is >10 mg/ml).

### **Storage/Stability:**

Aggregation is thought to occur in the presence of high concentrations of 2-mercaptoethanol.