

## Highly Concentrated Acid Cellulase (Industrial Grade)

Cat. No. TEXT-0130

Lot. No. (See product label)

### Introduction

**Description** Industrial-grade Acid Cellulase is refined from *Trichoderma reesei* through liquid deep fermentation and ultrafiltration processes. This enzyme has good thermal stability, maintaining excellent hydrolytic activity in the temperature range of 40°C-80°C and a wide pH range of 4.5-6.0. Mechanism of Action Cellulose is a polysaccharide molecule composed of glucose linked by  $\beta$ -1,4-glucosidic bonds. Cellulase refers to a group of enzymes that hydrolyze the  $\beta$ -1,4-glucosidic bonds of cellulose, converting it into cellobiose and glucose. It is not a single enzyme but a multi-component enzyme system that acts synergistically. The hydrolysis process involves at least three main cellulases: 1. Endoglucanases (EC3.2.1.4): These endoenzymes randomly hydrolyze  $\beta$ -1,4-glucosidic bonds within the non-crystalline regions of cellulose molecules, shortening the long-chain cellulose molecules and producing many small cellulose molecules with non-reducing ends. 2. Cellobiohydrolases (EC3.2.1.91): Known as CBH enzymes, they are divided into CBH I and CBH II, which hydrolyze cellobiose from the reducing and non-reducing ends of cellulose molecules, respectively. 3.  $\beta$ -1,4-Glucosidase (EC3.2.1.21): BG enzymes hydrolyze cellobiose and short-chain oligosaccharides to produce glucose. Industrial-grade Acid Cellulase mainly contains endoglucanase (EG), with small amounts of cellobiohydrolase and  $\beta$ -1,4-glucosidase.

**Applications** This product can be widely used in the paper, textile, detergent, and environmental protection industries, such as: 1. Paper Industry: Used in pulp beating. 2. Textile Industry: Used in fabric biopolishing and improving washing effects.

### Product Information

**Appearance** Light yellow solid powder

**Form** Powder

**Optimum pH** 4.5-6.0

**Optimum temperature** 65-75°C

### Storage and Shipping Information

**Storage** This product is active biological agents, transport and storage process should be dark, low temperature, dry, ventilated.