



# ENDOZYM<sup>®</sup> Hi-Flow

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 Glucanase enzyme for the filterability of wines  
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## → TECHNICAL DESCRIPTION

On many occasions, the musts and wines have considerable difficulties to be clarified and filtered effectively and quickly, so as to influence the cellar times and operations.

The causes, which have been evacuate in various studies, are to be found in the following situations:

- the use of must or wine from grapes affected by fungal diseases, such as *Botrytis cinerea*;
- imbalances during grape ripening, which is due, among other causes, to water stress that lead to structural changes in the peel and pulp, thus increasing the viscosity and thickness;
- intense and prolonged de-stemming processes that favour the incorporation of a considerable amount of colloids, which create a clogging effect;
- spontaneous malolactic fermentations, mainly by *Pediococcus*.

Refinement process with high colloidal enrichment.

A common factor in most cases is the presence of polysaccharides of a different nature, such as more structured glucans and pectins.

**Endozym Hi-Flow** is a formulation based on specific  $\beta$ -glucanase that allow to hydrolyse more structured glucans, thus reducing their clogging powers, to facilitate the clarification and enhance difficult filtration by reducing the clogging indices.

## → COMPOSITION AND TECHNICAL CHARACTERISTICS

Enzymatic activity	Activity/g
$\beta$ -GLU (U/g)	10,000

*The value is approximate and is not a specification.*

**$\beta$ -GLU** ( $\beta$ -(1-3, 1-6) Glucanase): the  $\beta$ -glucans present in the wines and musts degrade, which can be due to grapes being affected by *Botrytis cinerea* or yeast cells. Characterised by a high molecular weight, glucanases hydrolyse  $\beta$ -1,3 and  $\beta$ -1,6 of the 1,3-(1,6)- $\beta$ -D-glucans with the release of glucose.

**Endozym Hi-Flow** is purified by the following activities:

**CE** (Cinnamyl Esterase): is an activity found in unpurified enzymes, which causes the formation of volatile phenols, compounds which lend unpleasant aromatic nuances to the wine, which, if present in high concentrations, are reminiscent of horse sweat.

Reference: ENDOZYM\_HI-FLOW\_TDS\_EN\_1270217\_OENO\_USA





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## → DOSAGE

Between 2 and 6 g/hL.

Dose depends on the temperature of the must or wine. The ideal temperature range is 15-25°C. Dose will be greater at lower temperatures.

## → INSTRUCTIONS FOR USE

Dilute directly in 20-30 parts of unsulphured must or demineralised water, or add to the grapes, crushed grapes or must directly. Use at the start of or during tank filling.

## → ADDITIONAL INFORMATION

### INFLUENCE OF SO<sub>2</sub>

Enzymes are resistant to SO<sub>2</sub> levels normally used in winemaking, however it is good practice not to put them in direct contact with sulfur solutions.

### ACTIVITY CONTROL

There are various methods for evaluating enzymatic activity. A system utilized by AEB is a method of direct measure, directly linked to the concentration of the PL, PG and PE; the total of the three activities yields the Total UP per gram unity. The determination methods of pectolitic units together with the relative activity diagrams are made available to all technical personnel by AEB.

## → STORAGE AND PACKAGING

Keep **Endozym Hi-Flow** in the original sealed packaging away from light, and in a cool, dry, odour-free place at a temperature below 20°C. Do not freeze. Observe the expiry date on the packaging. Use promptly after opening.

500 g net cans in cartons containing 1 kg.

