

Reference: H2Oslim® general description mechanism

H2Oslim®, water soluble polysaccharides from *Agaricus Bisporus* dissolves in the stomach, complexes and traps fats and oils, thereby reducing the digestion of dietary fat and limiting the calorie intake.

IN VITRO ASSAY

The in vitro assay was performed resembling human stomach conditions in terms of pH, temperature (37° C) and electrolyte concentration. Fat trapping assay was performed using Olive oil as fat source (w9)

- The effectiveness of H2Oslim® as a fat trapping substance was limited to the acid to neutral pH range, with maximum activity between pH 2 and 5.
- H2Oslim® was heat stable between 30 and 60°C.
- The activity of H2Oslim® was not dependent on the presence of a metal ion neither catalyzers as amminochelates.
- The presence of high molar concentrations of salts reduced H2Oslim® fat trapping activity, whereas the polymer, once created, is tolerant to high salts concentrations.
- Solubilization of H2Oslim® polysaccharides occurs in seconds and polymer is created in 2-3 minutes in acidic condition (pH=2)

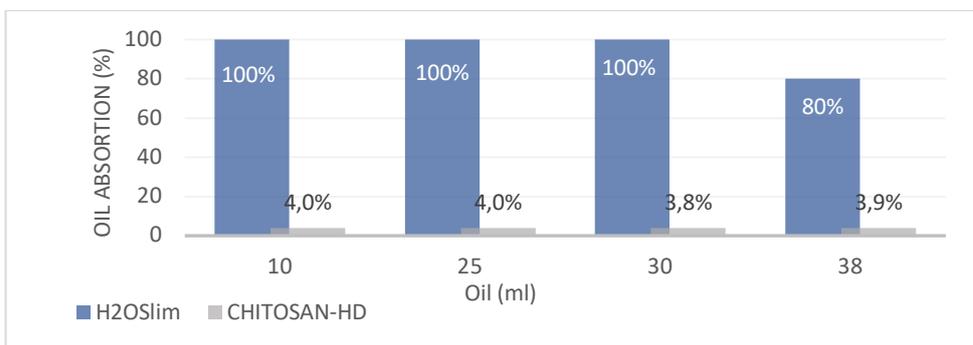
FAT TRAPPING REFERENCE/ DAILY OIL INTAKE

In accordance with AESAN data (Spain Agency for Food Safety and Nutrition) the mean oil and fat intake is by 35g/ day (38,04 ml) where 87,5% of this fat intake belongs to the olive oil intake.

Graph.1 represents the fat trapping capability of 400 mg of H2Oslim® at different olive oil intake (from 10 to 38 ml of oil).

The polymer created after 400 mg of H2Oslim® intake is capable of trapping from 100% to 80% depending on the oil intake

(Blue bars H2Oslim®. Grey bars, HD Chitosan)



HUMAN METABOLISM

H2Oslim[®] rapidly protonate and quickly dissolve in stomach acid. When in contact with acid water, the polysaccharides creates a polymer positively charged. Polysaccharides polymer binds with the negatively charged surface of dietary fat globules that separate from the digesting food. The resulting emulsion subsequently gels when it passes from the stomach to the small intestine, forming a protective matrix around the fat globules.

When fat enters the digestive tract, some fat may be (partially) digested by lingual and gastric lipases but after exiting the stomach, it will be emulsified by bile acids. Emulsification helps the large fat globules to be broken down into smaller globules and made water soluble. This allows pancreatic lipases to hydrolyze (digest) triglycerides, liberating fatty acids and monoglycerides that will be absorbed into the gut epithelial cells and transformed back to triglycerides. They will be used for energy or stored in adipocytes

The Ingestion of H2Oslim[®] has a rapid solubilization in stomach acid. H2Oslim in contact with water is positively charged (NH₃⁺) in acid and has 2 hydroxyl groups. Consequently, adsorption has been proposed as the main mechanism responsible for its hypolipidemic properties, binding fatty acids, neutral sterols and bile acids by electrostatic and hydrophobic forces.

It has been shown in vitro that polysaccharides from H2Oslim emulsifies lipids under acidic condition (pH 1-2, like stomach), resulting in a water in oil in water type (w/o/w). With increasing pH, approaching duodenal condition, the emulsion improves (increased number of droplets). At pH 6.2, the polysaccharides precipitates and lipids become entrapped in the formed flocculus (gel-like type). Such interaction contributes to the inhibition of duodenal fat digestion and absorption, and enhanced lipid excretion from the digestive tract.

Att. Forté Pharma Laboratoires

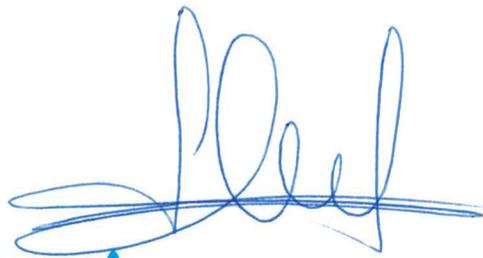
Reference: H2Oslim®

H2Oslim®, water soluble polysaccharides from *Agaricus Bisporus* in contact with water, creates a complex with fat/oil trapping properties

H2Oslim® tests has been carried out under conditions representative of the human digestive. The recommended daily dosage of H2Oslim® is 400 mg.

The daily dosage of Polysaccharides from H2Oslim® adsorbs by 30 g of fat as oil.

In strict accordance with the 2011 AESAN Report of National Human Dietary Habit (Agencia Española de Seguridad Alimentaria y Nutrición) 30 g. corresponds to 80% of the daily fat intake.



TRADICHEM
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