

GliSODin® – understanding its uniqueness



Why GliSODin® was developed:

In the late 1990s, a group of French scientists realised the clinical importance of the enzyme Superoxide dismutase (SOD) in human health. They knew that SOD was the primary antioxidant enzyme made by human cells to control excessive free radical activity but they also knew that during illness or ageing, human cells are less able to produce this essential enzyme. This enzyme is now known to be of major importance in the natural defence system of human cells. The scientists reasoned that if they could find a way to 'wake up' ageing or less than healthy cells to produce more of their own SOD, this might help to limit much of the damage that occurs daily in human cells.

Other researchers had already been successfully injecting SOD into arthritic joints and discovered that this helped considerably in reducing inflammation – but the treatment had to be done daily, was quite painful and very expensive. As well as that, the injected SOD had a short life of around 15 minutes in the bloodstream, so that for most of the day, there was no additional SOD in the cells.

In healthy human cells, SOD is produced continuously around the clock, increasing at certain times in response to the various stresses to which humans are often exposed in the course of an ordinary day. A healthy human has well over 100,000 units of SOD in the bloodstream at any time and this may be double or more than double in younger healthy people.

So, the French scientists set out to develop an oral supplement that could activate the ability of human cells to increase their *own* production of this vital enzyme. The first challenge they had to overcome was to find a natural plant source of SOD they could use as a starting material from which to produce a supplement. The second and much more difficult challenge was to find a way to overcome the fact that SOD is a protein and proteins are rapidly digested when they enter the human digestive system.

Remarkable solutions to the GliSODin® challenges



The rich plant source of SOD they needed was found in a particular variety of melon that contained many times more SOD than found in an ordinary melon.

They were then able to produce a melon extract in which the SOD was concentrated. Now they encountered two real challenges to using this melon extract as an SOD supplement. Consuming the melon concentrate alone was of no value because within minutes of consuming it, the SOD was digested and became completely worthless. They soon learned that they could coat the melon particles with various plant compounds to reduce

the amount digested but that just solved the easy part of the problem.

It was their ability to solve the second challenge that makes GliSODin® unique. Getting the intact SOD through the stomach was one thing but they still needed a way to activate the body's ability to make its own SOD. They realised that they needed some other molecule that could be recognised by human cells in a way that activated the cells to start producing more SOD. This is a process we describe as 'nutrigenomic', meaning that certain food molecules (nutri-) can activate the DNA of certain genes (-genomic) to increase SOD production. This sounds (and is) a very complex process but we can think of 'nutrigenomics' as 'food talking to our genes'. Everything we eat is sending signals to our genes. In its simplest terms, these signals can switch on the production of health-promoting genes or can instead switch on disease-promoting genes. It all depends on what foods we choose to eat.

What is GliSODin®?

The manufacture of GliSODin® is protected under international patents, meaning that no other company is able to legally copy the process.¹

In this process, the SOD-rich melon extract is coated with gliadin particles. Gliadin is a protein which makes up about 20% of the gluten protein in wheat. *It is the combination of the melon extract with the gliadin that activates the production of SOD in the cells.*

The melon extract alone has no such effect; nor does the gliadin alone. Many other substances have been tested in combination with the melon and none has been found to demonstrate the remarkable nutrigenomic properties of the *melon-gliadin combination*.² It is this unique patented process which is used in the manufacture of GliSODin®.

Each capsule of GliSODin® contains 250 units of SOD activity and the regular dose of 2 capsules daily is enough to double the SOD activity in our cells over 28-days. That translates to a typical increase in the bloodstream from 100,000 units SOD activity to over 200,000 units SOD activity, with such activity lasting for more than 6 hours in any 12-hour period.



What if I prefer to avoid eating wheat?

This is a commonly-asked question and one with a simple answer. A standard slice of bread contains between 2,000 and 3,000 mg of gluten, whereas one capsule of GliSODin® contains 8.3 mg of gliadin and this is about the quantity of gluten found in a tiny breadcrumb. Knowing this puts the gluten issues into perspective because even if consuming gluten-free foods, it is likely that amounts greater than this are being consumed daily.

If an individual has been diagnosed with coeliac disease, a genetic disorder for which gluten is harmful, it is recommended that GliSODin® be avoided. It has been shown that coeliacs can tolerate up to 50mg gluten daily; nevertheless, it may be preferable that these people avoid all known forms of gluten. However, for the majority of individuals avoiding wheat for suspected *wheat intolerance*, GliSODin® is not known to have adverse effects. In fact, in certain conditions related to gluten intolerance GliSODin® may, in fact be helpful. GliSODin® is considered to be one of the safest nutraceutical supplements available, especially given that more than 200 million daily doses of GliSODin® have been sold with no reported cases of adverse reactions.

Other Effects of GliSODin®

In addition to its ability to increase levels of the key antioxidant enzyme, superoxide dismutase (SOD), GliSODin® increases other beneficial compounds in human cells. There are two other essential enzymes needed to control excessive production of the superoxide radical. They are *glutathione peroxidase* and *catalase* and GliSODin® increases these enzymes along with SOD. Another very beneficial compound increased by GliSODin® is IL-10 (Interleukin-10)³; this is a powerful anti-inflammatory compound and this may in part explain why GliSODin® appears to soothe inflammatory conditions in the intestine and in other cells.

I can buy cheaper capsules containing melon extract without gluten

You may be able to obtain capsules of melon extract coated in palm oil but without gliadin. These typically contain 100 to 2,000 units of SOD activity. However, these capsules have no nutrigenomic properties at all, so that the few hundred units supplied by the capsule is all there is. Given that the life of SOD in the bloodstream is about 15 minutes, this tiny amount is practically all gone in just minutes. That makes these supplements virtually useless. It is the gliadin which gives GliSODin® its unique properties, enabling continuous and significant production of all 3 primary antioxidant enzymes along with other protective and anti-inflammatory compounds for around 6 hours after a single capsule; *there is no known alternative*.

- 1 Menvielle-Bourg, F. J. Superoxide Dismutase (SOD), a Powerful Antioxidant is now available orally. *Phytothérapie* **3**, 1-4 (2005).
- 2 Vouldoukis, I. *et al.* Supplementation with gliadin-combined plant superoxide dismutase extract promotes antioxidant defences and protects against oxidative stress. *Phytother Res* **18**, 957-962, doi:10.1002/ptr.1542 (2004).
- 3 Vouldoukis, I. *et al.* Antioxidant and anti-inflammatory properties of a Cucumis melo LC. extract rich in superoxide dismutase activity. *J Ethnopharmacol* **94**, 67-75, doi:10.1016/j.jep.2004.04.023 (2004).