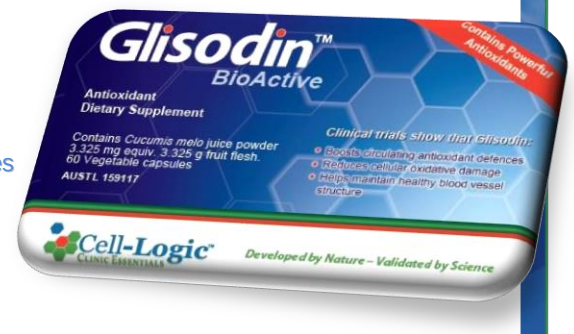
GliSODin BioActive

Aust L 204360
60 and 240 capsules



TECHNICAL OVERVIEW

GliSODin BioActive is a double patent-protected *Cucumis melo* extract combined with biopolymers of gliadin to produce a unique supplement with biochemically-demonstrated *nutrigenomic* effects. The melon used in the product is bred for its exceptionally high content of Superoxide dismutase and is concentrated to yield a minimum of **100 IU SOD enzyme activity per mg extract**. **GliSODin's international patents ensure that it is unique; other melon-based SOD products cannot legitimately claim equivalence.** Studies[1] in both animals and humans demonstrate that only *GliSODin (and not the melon ingredient itself) significantly upregulates the genes which code for the cell's 3 Antioxidant Enzymes*.

The role of the biopolymer is 2-fold: firstly, it protects the bioactive enzymes against gastric degradation and secondly, it confers the *nutrigenomic* upregulation of the 3 endogenous Antioxidant Enzymes, Superoxide dismutase (SOD), Glutathione peroxidase (GPx) and Catalase (Cat.).

Enhancing the cell's internal defences A growing body of evidence[2] shows that enhancing the cell's endogenous defences is a far more effective clinical strategy than administering compounds such as vitamin antioxidants and poorly-bioavailable polyphenolic plant extracts in the hope that they confer antioxidant benefit. SOD, GPx and Cat are the cell's *primary endogenous defence* against oxidative stress. GliSODin provides a safe, effective and unique strategy for enhancing natural cellular defences which are known to decline during illness or with ageing.

Clinical Application Because oxidative stress underpins inflammatory, acute and chronic disease states, the ability to enhance the cellular defences provides an *effective core strategy* for dealing with elevated superoxide production. Most superoxide is not derived from the external environment but is generated within the cell, especially in the mitochondria. GliSODin as a core prescription can help restore cellular defences to optimal function.

PRODUCT FORMULA

Presentation: GliSODin is blister-packed to protect the enzyme activity and boxed in packs of 60 vegetable capsules, suited to a 30-day supply at the usual dose of 1 capsule bd. Store at < 25° C.

Each capsule contains as active ingredient

Cucumis melo juice powder	**= 3.325mg Cucumis melo**
SOD activity	**= 100 IU /mg**
(Equivalent SOD activity/capsule)	= **250 IU** (min.)

GliSODin is guaranteed free of palm oil.

Recommended Daily Dosage:
One capsule twice daily, 12 hours apart, delivering **500 IU SOD activity**, equivalent to the effective daily dosages used in clinical trials.

The level of maximum induction of the Antioxidant Enzymes is reached at 30 days[5].

Only products bearing **IsoCell NUTRA's** GliSODin logo shown here contain the double-patented product used in published studies cited here as References #1, 6, 7, 8 & 10 and shown on Page 2.

Why does GliSODin include gliadin? GliSODin's *nutrigenomic* property is uniquely conferred by the presence of the gliadin biopolymer. Each 250mg capsule contains just 8.3mg of gliadin which is equivalent in gliadin to that in one small breadcrumb. As gliadin typically represents 20-50% of the gluten molecule, each capsule may contain an average equivalent of 25mg gluten. This is under the daily 50mg threshold[a] at which coeliac effects are likely to be triggered, so that even gluten-intolerant patients may tolerate GliSODin.

GliSODin - LISTED INDICATIONS

- Contains the antioxidant Superoxide dismutase[5].
- Boosts circulating levels of oxidant defences ***SOD***, ***GPx and Cat.,*** reducing evidence of oxidative damage[5].
- Improves antioxidant defences and helps to reduce oxidative damage[6].
- May help improve and maintain cardiovascular health and the cardiovascular system[9]
- May help improve and maintain the health and flexibility of blood vessels [9]
- Protects blood vessels from oxidative damage and helps maintain healthy blood vessel structure[9].
- Aids, assists or helps in the maintenance or improvement of general well-being.

[a] Catassi C ***A prospective, double-blind, placebo-controlled trial to establish a safe gluten threshold for patients with celiac disease*** *Am J Clin Nutr* 2007;85:160–6.

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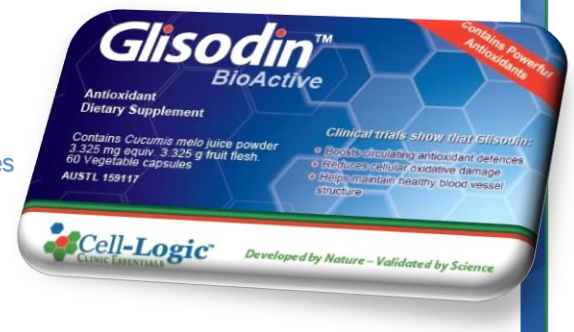

MECHANISM OF ACTION

GliSODin's uniqueness lies in its nutrigenomic ability to *upregulate* the genes which code for the 3 Antioxidant Enzymes. *Nutrigenomics* reveals the way in which bioactive molecules such as GliSODin activate intracellular *'switches'* which in turn translocate to the nucleus where they stimulate gene expression. In this case, it is the genes coding for the 3 Antioxidant Enzymes which are upregulated. *Nutrigenomics* reaffirms the signalling effect of many of the phytochemical bioactives which have been considered as antioxidants. *Nutrigenomic molecules* hold important keys to cellular defence systems.

GliSODin compared with vitamin and phytochemical 'Antioxidants' *Nutrigenomics* has changed the way we **must** consider 'antioxidants' and the role of redox balance in human cells. Although nutrients like vitamin C, E and beta-carotene play essential roles in human cells, they are not particularly effective as intracellular antioxidants. Phytochemicals such as quercetin and resveratrol which show activity in *in vitro* studies have poor *in vivo* activity. In fact, they often behave as pro-oxidants[3] and in the case of the polyphenols, bioavailability is so poor that too little of the molecule enters the cell for any antioxidant effect to occur at all. Numerous clinical trials using the classical 'antioxidants' have failed[4]. Until now[2], it has not been clear why – largely, these compounds have been the *'wrong man for the job'*.

A Potent *'MULTIPLIER'* Effect A single vitamin or polyphenol antioxidant molecule quenches just one reactive oxygen species (ROS – or *free radical*) but an Antioxidant Enzyme such as SOD quenches literally billions of ROS per second[5] and continues to do so for 3-4 days before the enzyme is degraded and the amino acids recycled. Research[6] has confirmed in both animals and humans that GliSODin is capable of enhancing endogenous cellular defences by significantly increasing levels of SOD, GPx and Cat. (Fig 1). Not only did Antioxidant enzyme levels increase towards normal levels of younger species but also the levels of inflammation markers[7] significantly decreased.

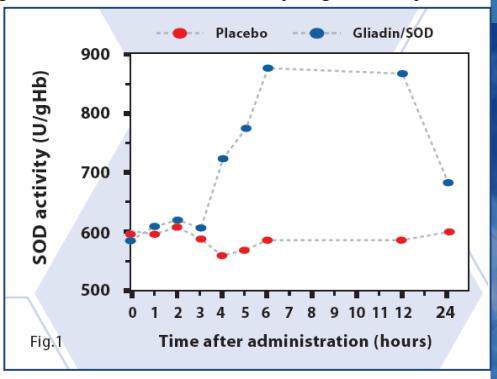

Fig.1

Pharmacokinetic Studies and Dosage Considerations Pharmacokinetic studies[5] to determine optimal GliSODin dosage showed that one 250mg GliSODin capsule begins to upregulate endogenous synthesis of SOD around 3 hours after consumption. A steep increase over the next 3 hours reaches a maximum threshold which is maintained at this level over approximately 6 hours, after which the enzyme levels fall away. SOD levels are therefore elevated after 3 hours and remain so for a further 9 hours. Dosing 2 capsules daily approximately 12 hours apart provides almost continuous induction of SOD. This research group confirmed that the same melon extract ingredient *without gliadin* shows no effect at all[5]. The combination of melon *with the gliadin* makes GliSODin unique.

CLINICAL TRIAL EVIDENCE FOR GLISODIN Research on GliSODin (including human clinical trials) is catalogued in an extensive database which can be viewed at www.glisodin.org. The 2004 trial by Muth[8] showed that GliSODin completely protected deep-sea divers against the DNA-damaging effects of hyperbaric oxygen. A similar study design[9] using vitamins C & E failed to prevent such damage. In 2007, Cloarec[10] showed that over a 2-year period GliSODin was able to reduce the carotid intima medial thickening (CIMT) associated with atherosclerosis in pre-diabetics. It is generally accepted that statins at high doses may achieve this; that GliSODin was able to bring about regression of CIMT is remarkable for a nutraceutical compound and attests to GliSODin's ability to enhance cellular defences via a nutrigenomic mechanism.

TECHNICAL DATA – CLINICIANS ONLY

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[10] Cloarec M et al ***GliSODin, a Vegetal SOD with Gliadin as Preventative Agent vs. Atherosclerosis as Confirmed with Carotid Ultrasound-B imaging***. Eur Ann Allergy Clin Immunol. 2007:39(2): 45-50