

Glutathione significant to detoxification, but also aging?

PHOENIX, AZ - April 7, 2007 - Recent studies have shown that people with liver disease have significantly lower levels of glutathione than that of healthy persons [1]. It has also been shown that consumption of alcohol and other toxins found in our foods (i.e. nitrites, dyes, detergents), and many pharmaceuticals (i.e. acetaminophen) deplete the level of glutathione found in our liver and blood tissues [2]. This is important to note because when the glutathione levels fall, so does the ability of the body to protect itself from stress, cancer, aging, and premature death [3,4,7,10]. Clinical studies have also indicated that alcohol-induced liver damage is associated with a decrease in glutathione [5]. It is well documented of the correlation between the immune system and glutathione levels [6].

Glutathione is a peptide that is a very powerful cellular protectant.

Peptides are amino acids, the building blocks of life, linked together with other amino acids. All protein, hormones, and other messenger chemicals are made of amino acid group.

Recent research has indicated that elderly individuals also have lower levels of glutathione. Therefore, susceptibility of an increase in cellular damage is noted [9]. This could lead to proof that glutathione may help prolong healthy life of cells. Because the body is made of many individual cells, if the cells are protected from stress and damage they have a probability of living longer which means the person made of these cells may also have a better and longer life if adequate levels of glutathione are maintained.

When it comes to protecting the liver, a few pharmaceutical products and herbal extracts are currently being used. One herb commonly used is milk thistle (*Silybum marianum*). Most people do not realize that this herbal powder is not water soluble and taking it by mouth does very little - if anything - to help the liver [13].

A chemical in milk thistle called silymarin in which some applications administered i.v. (injected into the vein by a doctor) showed moderate success in testing liver failure. Unfortunately these agents may also have harmful side-effects.

The bottom line about milk thistle? After searching 13 databases and reviewing several hundred articles written by the scientific community, there's not enough data to recommend this herbal compound for the treatment of liver disease [14].

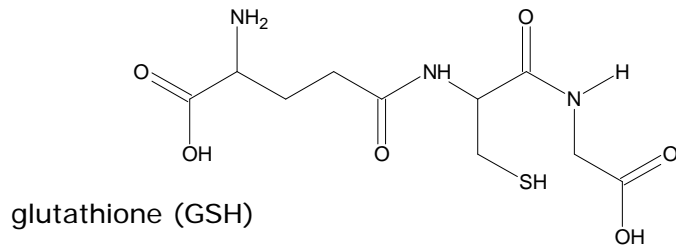
Glutathione has, in fact, been studied and proven effective for liver function and re-growth. In the 3460 articles available thru www.pubmed.com no side-effects to humans were noted. Silymarin, a chemical in milk thistle, when administered properly actually helps protect the liver by increasing the glutathione available to the liver [11]. Instead of using milk thistle (which may or may not help your liver at all), why not use glutathione?

By raising the glutathione level, protection from cellular damage (oxidative stress) is also raised. Glutathione, in the proper form, can be absorbed and used by the body for a number of protective functions at the primary level. Liver regeneration, cancer prevention, cellular health, and increased life span are a few of the postulated applications.

Upon hearing how powerful glutathione is, one is likely to rush out and buy a supplement containing glutathione. Before doing this, understand that there are over six different types of glutathione and only one is effective. In addition, glutathione is not utilized in the body unless bio-available forms of exact minerals are present.

Most supplements on the market are not likely to contain glutathione because of cost prohibition, and the few that do offer it in a form that your body cannot use.

Glutathione is a peptide $C_{10}H_{17}N_3O_6S$ that contains one amino-acid residue each of glutamic acid, cysteine, and glycine, that occurs widely in plant and animal tissues [12].



References

1. Significance of plasma glutathione determination in patients with alcoholic and non-alcoholic liver disease. *J Gastroenterol Hepatol* 1992 Jan-Feb; 7(1): 7-11
2. Ethanol consumption, amino acid and glutathione blood levels in patients with and without chronic liver disease. *Alcohol Clin Exp Res* 1999 Nov; 23(11): 1780-4
3. S-Adenosyl-L-methione and mitochondrial reduced glutathione depletion in alcoholic liver disease. *Alcohol* 2002 Jul; 27(3): 179-83
4. Decreased glutathione in patients with anorexia nervosa. Risk factor for toxic liver injury? *Eur J Clin Nutr* 2004 Feb; 58(2): 238-43
5. Chronic ethanol consumption alters the glutathione / glutathione peroxidase-1 system and protein oxidation status in rat liver. *Alcohol Clin Exp Res* 2001 May; 25(5): 726-33
6. Liver immunity and glutathione. *Antioxid Redox Signal* 1999 Summer; 1(2): 245-53
7. The effects of glutathione glycoside in acetaminophen-induced liver cell necrosis. *Exp Mol Pathol*. 1998; 65(1):15-24
8. Mechanism and significance of increased glutathione level in human hepatocellular carcinoma and liver regeneration. *FASEB J*. 2001 Jan; 15(1):19-21
9. Effect of liver cirrhosis and age on the glutathione concentration in the plasma, erythrocytes, and gastric mucosa of man. *Free Radic Biol Med*. 1996; 20(3): 483-8
10. Marz, Russell M.D. *Medical Nutrition From Marz* 2nd Edition. Omni-Press, Portland, OR 97215
11. Selectivity of silymarin on the increase of the glutathione content in different tissues of the rat. *Planta Med* 1989 Oct; 55(5): 420-2
12. Merriam-Webster Online Dictionary. m-w.com
13. Effect of silybin and its congeners on human liver microsomal cytochrome P450 activities. *Phytother Res* 2002 Nov; 16(7):632-8
14. Milk thistle for the treatment of liver disease: a systematic review and meta-analysis. *Am J Med* 2002 Oct 15; 113(6):506-15

You can get more information online at: www.dietblends.com.

Contact: DietBlends, Inc.

Phone: 480.663.0123

E-mail: webmail@dietblends.com

About DietBlends, Inc.

DietBlends, Inc. is a privately funded company specializing in research, development, design, and marketing of consumable products containing natural vitamins, minerals, and herbs for the full support of essential body systems and overall health. The Company differentiates itself by developing unique products that are highly effective. Glutathione, Glycine and highly absorbable mineral combinations are the base formula of Xo3, one of DietBlends flagship products.