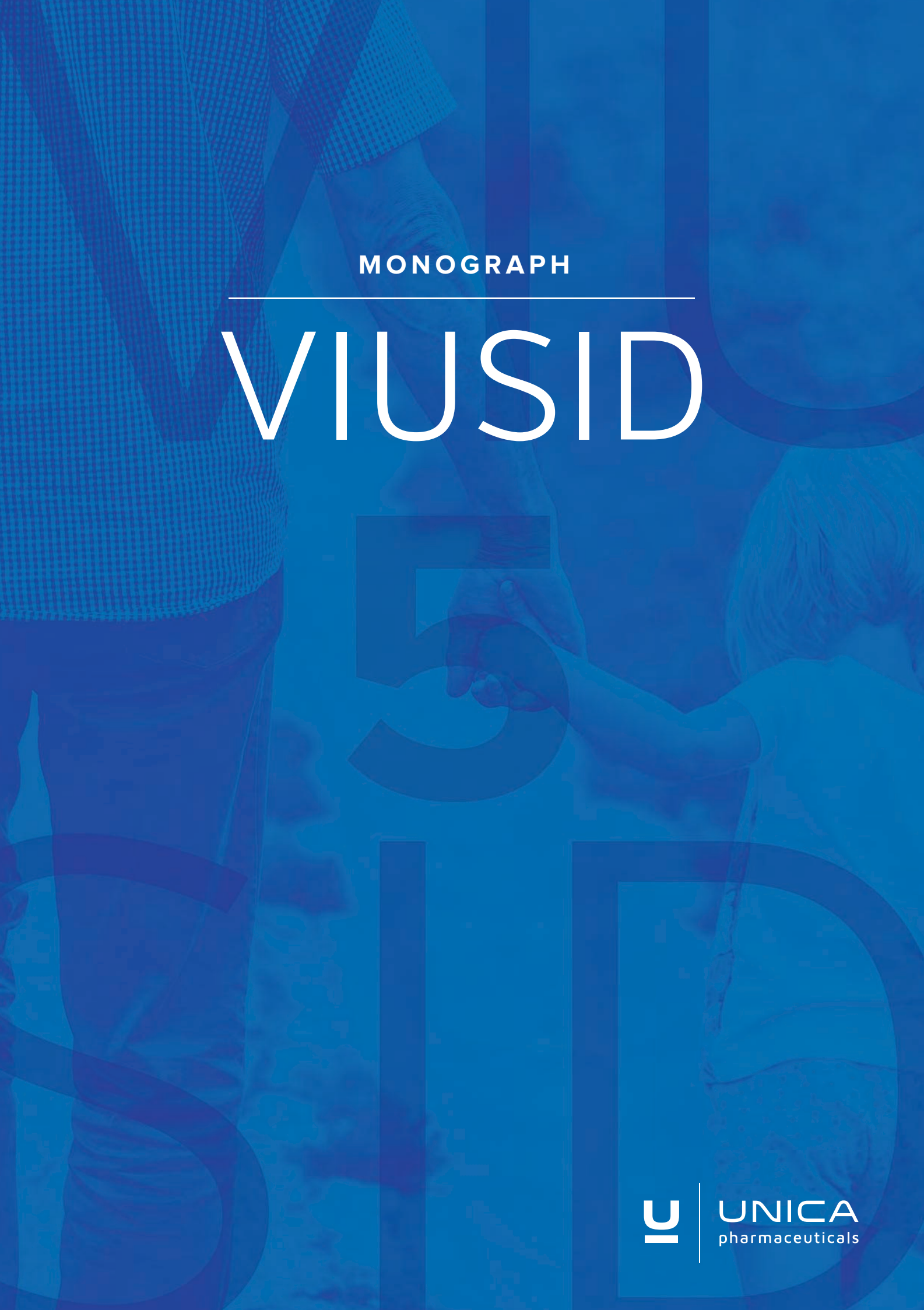

MONOGRAPH

VIUSID

UNICA pharmaceuticals

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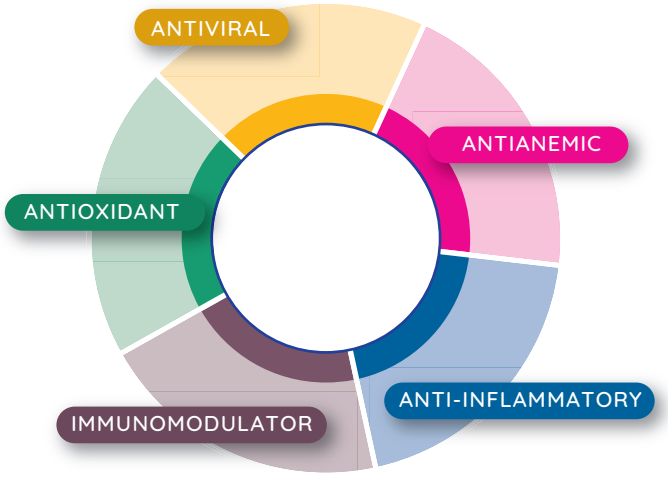
VIUSID

What is Viusid?

VIUSID is a nutraceutical compound with immunomodulatory, antiviral, antioxidant, anti-inflammatory and antianemic properties.
It is recommended as an adjuvant in the treatment of diseases that require immunostimulant activity, such as viral infections (herpes, HPV, HSV), in diseases that present an increase in free radicals and/or that need to modulate the inflammatory process (e.g. degenerative diseases) and in anaemia in general.



What does it contain?

Viusid is a nutraceutical compound produced in the Catalysis laboratory in Spain and contains*:

Proteins

- Arginine
- Glycine

Vitamins

- Ascorbic acid (Vit. C) ..... 20 mg
- Pyridoxal (B6) .....0.6 mg
- Cyanocobalamin (B12) .....0.3 mcg
- Pantothenic acid (B5) ..... 2 mg
- Folic acid .....66 mcg

Minerals

- Zinc sulphate .....1.13 mg

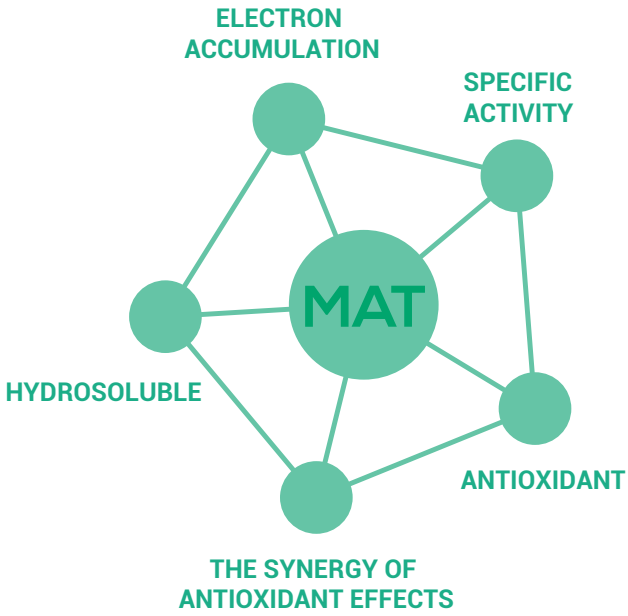
Other components

- Malic acid
- Glucosamine
- Glycyrrhizinic acid

* The Viusid formula can be altered for regulatory reasons according to the country where it is sold.

These ingredients have undergone a molecular activation process that enhances their effectiveness exponentially. Molecular activation is a process called MAT (molecular activation technology) whereby molecules are optimised through a methodology discovered by Dr Antonio Martín González, of the Spanish National Research Council (CSIC in Spanish), and by the Catalysis Laboratory.[20]

In this process, antioxidant and other hydrosoluble molecules, which contain carboxyl groups in their structure, are exposed to predefined electromagnetic frequencies that significantly extend their biological activity, without altering their molecular structure.[20]



The improvement obtained through MAT has the capacity to enhance the therapeutic effects of the compounds subjected to it, e.g. the antiviral activity of glycyrrhizinic acid, by up to 10,000 times.[1]

Another notable aspect is that, in addition to enhancing its therapeutic effects, MAT optimises intermolecular synergism, as observed in the nutraceutical VIUSID, as an immunostimulant and antioxidant, neutralising free radicals that promote oxidative stress; activating and promoting viral replication.[20]

In a trial[20] which assessed the antioxidant optimisation of the nutraceutical Viusid subjected to molecular activation (MAT), it was found that the antioxidant action had been enhanced by up to 7,000 times, making it very potent.[41] These results show that ACTIVATION is both essential and necessary to achieve increased biological activity and, therefore, increased effectiveness in the treatment of the diseases that are directly or indirectly caused by free radicals.[41]

Another benefit derived from MAT is the optimisation of therapeutic properties not commonly observed, in normal concentrations, in compounds with known therapeutic action. An example of this response has been observed in a clinical trial conducted by Concepción Pérez Martín et al. which has demonstrated the therapeutic superiority of glucosamine exposed to MAT (nitroderivative of D_glucosaminhydrochloride - GN_11), in comparison to non-activated glucosamine (D-glucosamine hydrochloride - GN), acyclovir (ACV) and placebo in the treatment of herpetic keratitis induced in rabbits.[21]

IMMUNOMODULATION

The immune system, also known as the immunological system, is a system of biological structures and processes that protects the body against disease.

When functioning properly, the immune system should detect an array of agents, from viruses to parasites, and differentiate them from the body's own healthy tissue. It is also responsible for the body's "cleansing", i.e. dead cell removal, regeneration of certain structures, graft rejection and immunological memory. Moreover, it is active against altered cells that emerge in our body daily as a result of abnormal mitosis. These cells, if not destroyed, can give rise to tumours.

The immune system's response occurs on 2 levels:

NON-SPECIFIC RESPONSE		SPECIFIC RESPONSE
First line of defence	Second line of defence	Third line of defence
Natural barriers Skin and mucous membranes Secretions Normal flora Peristalsis	**Inflammation** Phagocyte cells Antimicrobial agents High temperatures	Antibodies Cytotoxic cell response

The second line of defence, also known as a non-specific defence, is characterised by phagocytosis and the destruction of altered or damaged cells. It is represented by:

- Macrophages and monocytes
- Granulocytes, especially neutrophils
- NK lymphocytes (natural killer cells or 'cytolytics')
- Cytotoxic T-cell (Tc)

On the other hand, the third line of defence, also known as a specific defence, is characterised by specific antibody formation and is represented by:

- T_h cells, identified by antigen-specific sequences
- Ig formation (antigen-specific antibodies

Non-specific defence is centred on inflammation which must be understood as an organism's defence response to any attack and is regulated by substances (cytokines) which originate from defence cells (macrophages, T_h1 cells, chondrocytes and fibroblasts) with proinflammatory action (e.g. interleukin-1, interleukin-6, interleukin-8 and TNF) and by compounds (cytokines) with anti-inflammatory actions (e.g. interleukin-10 and TGF-β) mediated by T_h3 cells and other cells of the body.

The balance between these two movements (pro-inflammatory and anti-inflammatory) is what characterises immunomodulation.

COMPOSITION OF VIUSID

Viusid is a nutraceutical compound composed of both vegetable and mineral based substances and organic compounds (vitamins, amino acids).

Amino acids:
• Arginine
• Glycine

Vitamins	
• Ascorbic acid (Vit. C)	20 mg
• Pyridoxal (B6)	0.6 mg
• Cyanocobalamin (B12)	0.3 mcg
• Pantothenic acid (B5)	2 mg
• Folic acid	66 mcg

Minerals	
• Zinc sulphate	1. 13 mg

Other compounds
• Malic acid
• Glucosamine
• Glycyrrhizinic acid

All compounds that comprise Viusid go through a molecular optimisation process called MAT (molecular activation technology)[21], which is characterised by exposure to a variable frequency electromagnetic field, which favours optimisation of the exposed compound's therapeutic qualities. Another notable aspect is that molecular activation, in addition to enhancing these molecules' therapeutic qualities, also enhances the synergism between them.[21]

Arginine

Arginine is an important immunonutrient that plays an essential role in cytotoxic T-cell growth and activity.[1,2] Similarly, nitric oxide (NO), a compound formed from arginine, activates several defence cells, fighting infections caused by viruses, bacteria, fungi, protozoa.[3,4,5,6]

Its pharmacological effect seems to act specifically on the immune system, by means of T-cell proliferation. As a protein synthesis stimulant, it contributes to proline production, which is essential for collagen formation and wound healing in the presence of trauma. Under physiological conditions, the release of nitric oxide (NO) by vascular endothelial cells via L-arginine conversion regulates blood pressure and tissue perfusion.[8]

Arginine has multiple, potent secretagogue activity (ability to increase the secretion volume) on several endocrine glands. It is an essential secretagogue for growth hormone, prolactin and insulin. It stimulates the release of glucagon, pancreatic polypeptide and adrenal catecholamines,

while also stimulating nitrogen metabolism and beneficial wound healing effects on antitumour defence mechanisms and tumour metabolism and growth.[1] It is described as a pituitary growth hormone stimulator and has been associated with the increased activity of Natural Killer (NK) cells and T-helper cells and with the stimulation of cytokine production: interleukin-1 (IL-1), interleukin-2 (IL-2), IL-2 receptor, interleukin-6 (IL-6), and tumour necrosis alpha factor (TNF-α), which are important mediators in the genesis of inflammation. Alzheimer's patients are also demonstrating an improvement in their clinical condition, based on increased polyamine levels, which are fundamental in cell proliferation.[1]

Dietary arginine increases macrophage activity and increases the CD4:CD8 T-cell ratio, the number of lymphocytes in the Peyer's patches, as well as the levels of secretory IgA. Moreover, it increases the expression of messenger RNA for T_h1 and T_h2 cytokine production, suggesting that arginine acts on both cellular and humoural immune responses.[7,8]

Glycine

Glycine, as other amino acids, also has various functions. Apart from regulating blood sugar levels, it acts as a biosynthetic intermediary by actively contributing to the production of porphyrins (haemoglobin group), purines (nitrogen base used in DNA strand formation) and phosphocreatins, as well as being a natural element in the formation of numerous compounds, such as collagen. It also forms part of glutathione, an antioxidant essential for balancing cell oxidation caused by free radicals.[9]

Another role of glycine is its action as a inhibitory neurotransmitter, mainly in the retina, spinal cord and brain stem.[10]

Glycine is also fundamental in how our digestive system functions, controlling bile production.[9] It also has anti-inflammatory, immunomodulatory and cytoprotective effects.[10]

Ascorbic acid (vitamin C)

Vitamin C (ascorbic acid) impacts the immune system by stimulating leukocyte activity, interferon production, membrane integrity and the lymphocyte population.[11]

The presence of ascorbic acid is especially relevant for leukocytes due to the reactive oxygen species (free radicals) generated during phagocytosis and neutrophil activation. These free radicals are associated with infection and stress-related inflammation.[11]

It also has anti-oxidant properties and is water soluble. A recent study has shown that the microvascular benefits of vitamin C in septic patients may be due to its inhibition of inducible nitric oxide synthase (iNOS).[11]

Ascorbic acid works as an antioxidant, ***in vitro***, eliminating the reactive oxygen species and those reactive to nitrogen (free radicals), preventing them from attacking LDL cholesterol.[11]

Vitamin B6

Vitamin B6 is found in food as three distinct compounds: pyridoxine, pyridoxal and pyridoxamine. What differentiates them is the nature of the functional group linked to the ring.

Its active form, pyridoxal-5-phosphate, is composed of pyridoxine phosphorylation.[12]

Pyridoxine is more abundant in plants, while pyridoxal and pyridoxamine are more abundant in animal tissue. It works as a coenzyme for many enzymes. Its primary function as a coenzyme in various chemical reactions is principally related to protein metabolism.[12]

Its active form, pyridoxal-5-phosphate, acts on enzymatic reactions involved in the non-oxidative degradation of amino acids, such as transamination, decarboxylation, deamination, desulphurisation and condensation, among others.[12]

It also acts as an important cofactor in the metabolism of tryptophan (precursor of serotonin), tyrosine (precursor of dopamine and noradrenaline) and glutamate (precursor of gamma-aminobutyric acid).[12]

It is present in pork, yeast, viscera, wheat bran and whole grain germ; legumes, potatoes, bananas, milk, egg yolks, vegetables and fruits.

Vitamin B complex deficiency also interferes with the immune system. Pyridoxine (B6) increases lymphocyte counts, lymphoid organ weight, IL-2 production and, consequently, immunoglobulin production. Human subject research shows that vitamin B6 deficiency compromises antibody production and T-cell activity. The growth and maturation of lymphocytes also undergo alterations, as well as a drop in the natural killer cell activity. Although supplementing with vitamin B6 corrects both the deficiency and the drop in immunity, a dose above the RDA is not more beneficial for healthy adults.[12]

Pantothenic acid (vitamin B5)

Also known as pantothenic acid, vitamin B5 is a coenzyme involved in energy metabolism and in the synthesis of cholesterol, phospholipids, steroid hormone and porphyrin for haemoglobin. Pantothenic acid is composed of pantothenic acid bound to a beta-alanine subunit by peptide bond.[13]

Pantothenic acid is a coenzyme A (CoA) compound, assuming a central role in carbohydrate energy reactions. It is present in meats, eggs, milk, whole grains, peanuts, yeast, vegetables (broccoli), some fruits (avocado), cold-water fish eggs, royal jelly.[13]

Widely available in food, vitamin B5 is shown to be a constituent factor of coenzyme A which is essential at various stages of cell metabolism and energy production.[13]

Its administration in terms of supplements is recommended for individuals with nutritional requirements, drug addicts, pregnant or breastfeeding women, those engaged in physically demanding activities, post-surgical patients or those under prolonged stress.[13]

Folic acid (vitamin B9)

Folic acid, folacin or pteroyl-L-glutamic acid, also known as vitamin B9 or vitamin M, is a hydrosoluble vitamin belonging to vitamin B complex, required for the formation of structural proteins and haemoglobin, and whose source is exclusively exogenous. It is present in foods such as legumes, dark leafy vegetables, fruits, cereals and dairy products.[14,15]

Folic acid, after conversion to tetrahydrofolic acid, is required for normal erythropoiesis and

nucleoprotein synthesis. It is absorbed almost completely in the gastrointestinal tract (mostly in the upper duodenum), even in cases of malabsorption.[14,15]

In malabsorption syndromes, the addition of dietary folate decreases. Protein binding is extensive and is largely stored in the liver, where it is also metabolised. In the liver and plasma, folic acid, in the presence of ascorbic acid, metabolically converts to its active form (tetrahydrofolic acid) through the enzyme dihydrofolate reductase. It is eliminated through the kidneys and also through haemodialysis.[14,15]

Its deficiency affects the cellular response (production and T- and B-type lymphocytes) and humoral response (immunoglobulins), apart from being directly associated with neural tube closure.[14,15]

Vitamin B12

Vitamin B12, also known as cobalamin (or cyanocobalamin), is a corrinoid complex compound containing four pyrrole rings surrounding a single cobalt atom.

Human beings derive it exclusively from animal food sources, such as meat, eggs and milk, as it is synthesised exclusively by bacteria. For vitamin B12 to be absorbed, it requires the gastric intrinsic factor protein, which is secreted by the parietal cells of the stomach. [13,15]

Vitamin B12 and the intrinsic factor form a complex that binds to receptors in the ileal mucosa, where proteins known as transcobalamins transport vitamin B12 from mucosal cells to the blood and tissues. It is largely stored in the liver, bone marrow and other tissues.[13,15]

Vitamin B12 and folate are both critically related to DNA synthesis, which in turn affects erythrocyte maturation. It is also necessary for the formation and maintenance of the myelin sheath. Considering that cobalamin synthesis by intestinal bacteria is inadequate, dietary sources of cobalamin should be encouraged.[15]

Traditionally, vitamin B12 deficiency has been associated with pernicious anaemia, a condition characterised by large, poorly formed blood cells and demyelination of the nerve cell layer. Recent research associates cobalamin deficiency with an increased risk of atherosclerosis and neurodegenerative diseases.[13,15]

Cyanocobalamin (B12) acts by improving phagocyte activity and stimulating cytotoxic T-cell proliferation. Pantothenic acid (B5) improves humoral response, and riboflavin (B2) increases circulating lymphocyte counts and thymus weight.[12]

Malic acid

Malic acid is an organic acid belonging to the carboxylic acid group which is naturally present in fruits such as apples and pears. It appears in lesser amounts in other fruits, such as grapes, raspberries, pomegranates, pineapples and wild blackberries.

It is used in the pharmaceutical industry to treat burns and wounds in general, acting as a tissue regenerator and sanitiser. Associated with magnesium, it is recommended as a muscle relaxant for treating fibromyalgia.[16]

It is also produced in the human body and actively participates in the Krebs cycle. For this reason, malic acid is unquestionably associated with increased energy levels, thus recommended in the treatment of fibromyalgia and chronic fatigue. It also has anti-inflammatory, chelating and antioxidant action.[16]

Glucosamine

Glucosamine is a compound produced by the body from glucose and the amino acid glutamine. Glucosamine stimulates proteoglycans, a component of cartilage. Proteoglycans are complex macromolecules containing a protein skeleton with one or more glycosaminoglycan chains. The types of proteoglycans in cartilage have different hydrodynamic volumes, depending on the nature of their glycosaminoglycan chains.

The use of glucosamine has been shown to have beneficial effects on improving pain and functional ability in individuals with osteoarthritis. Its use coupled with chondroitin sulphate has also proven effective in reducing the clinical symptoms of knee osteoarthritis.[17,18,19] Trails have shown that glucosamine has important anti-inflammatory effects, as it is capable of regulating the cyclooxygenase-2 (COX-2) action. Glucosamine is also able to suppress metalloproteinase production through chondrocyte stimulation.[17,18,19]

When it undergoes molecular activation (MAT), glucosamine exhibits antiviral activity, as demonstrated in the study by Pérez Martín et al., in which the therapeutic efficacy of the nitroderivative of glucosamine hydrochloride is compared with acyclovir and D-glucosamine hydrochloride in the treatment of type 2 herpetic simplex keratitis in rabbits. This study revealed that the group treated with the nitroderivative of glucosamine hydrochloride inhibited the formation of herpetic keratitis, contrary to what was observed in the other two groups.[21]

Glycyrrhizinic acid

Glycyrrhizinic acid is a compound found in the root of the Glycyrrhiza glabra plant, also known as liquorice, and its use as a therapeutic agent has been described for more than 2,000 years.[22,23,24]

Many therapeutic qualities of liquorice are described in the medical and non-medical literature, such as antihistamine, antiulcerant, anti-inflammatory, antitoxic, emollient, depurative, antitussive, cough medicine, tonic, antimicrobial, antioxidant, antiseptic, antitumour, aromatic, diuretic, expectorant, mild laxative, antifungal, antibacterial, calming, harmoniser, demulcent, refreshing, antispasmodic, digestive, healing, emetic (in high doses), antineoplastic, cardiotonic, antibiotic.[24]

In recent years, the biological effects of glycyrrhizinic acid have been studied extensively. The compound has been shown to have anti-inflammatory properties similar to those of hydrocortisone. This is partly due to the inhibition of phospholipase A2 activity, an enzyme involved in numerous inflammatory processes. In vitro research has also revealed that glycyrrhizinic acid inhibits cyclooxygenase activity and prostaglandin formation (specifically, prostaglandin E2), as well as indirectly inhibits platelet aggregation, all of which are factors involved in the inflammatory process.[25,26,27]

The antiviral effects of this compound on the human cytomegalovirus28, the herpes simplex virus, the influenza virus and the human immunodeficiency virus have been demonstrated, as well as its effects on other types of viruses, such as hepatitis A and varicella-zoster.

The medication interacts with viral proteins, which, depending on the stage of the viral infection, can lead to the deactivation of extracellular free viral particles, prevention of the intracellular de-capsulation of infecting particles and deterioration of the virus' ability to assemble structural components.[27]

In the early stages of infection, viral replication also decreases by blocking the virus from leaving its capsid, thus blocking its penetration into the cells. Such effects have been associated with the selective inhibitor dosage that is dependant on the phosphorylation of the Kinase-P.[27]

Glycyrrhizinic acid also targets other kinases responsible for phosphorylation of cell membrane peptides, which are viral reception sites, preventing them from attaching to the membrane, thereby inhibiting the virus' infectious capacity.[27]

The inhibitory effect of glycyrrhizinic acid on tumour growth and angiogenesis and its antioxidant properties have also been documented. This compound has also shown some immunomodulatory effects. It increases lymphocyte proliferation and serves as a late signal transduction promoter of T-cells for IL-2 production. Effects such as the induction of IFN-γ and IL-10 production and increased NK cell activity have also been reported. Such data would indicate that glycyrrhizinic acid may function as an immune response regulator, interfering with early immune responses and targeting mainly dendritic cells (DCs).[27]

A recent study28 has shown the effects of Glycyrrhiza uralensis water extract (GUWE) on DC maturation and function activation and its adjuvant effect in DC-based vaccines, analysing the antitumour efficacy of HPV-16 E6 and E7 peptides in mouse tumour models. These findings have indicated a significant anti-HPV immunoregulatory activity of Glycyrrhiza uralensis.[26]

It has recently been shown that Glycyrrhiza glabra has potent antiproliferative and anti-cancer properties, as can be observed in the study conducted by Farooqui et al.29 , which analyses the antiproliferative and apoptotic properties of glycyrrhizinic acid in human cervical cancer HeLa cells. The findings demonstrated that exposure to glycyrrhizinic acid significantly reduces the viability of HeLa cells, with a concurrent increase in chromatin condensation and dose-dependent DNA fragmentation. It also induces apoptosis in cervical cancer cells, exerting mitochondrial depolarisation. Another relevant aspect is that the cell cycle has been interrupted in the G0 / G1 phase, in a dose-dependent manner.[27]

MECHANISM OF ACTION

Viusid is a nutraceutical compound that, due to the substances it comprises, has an immunomodulatory, antiviral, antioxidant and antianemic action.[27,28,29,30,31,32,33,34,35,36,37]

VIUSID stimulates the production of interleukin-12 in macrophages. Interleukin-12 plays a prominent role in the development of immune responses mediated by Type 1 T-helper cells (T_h1). [31]

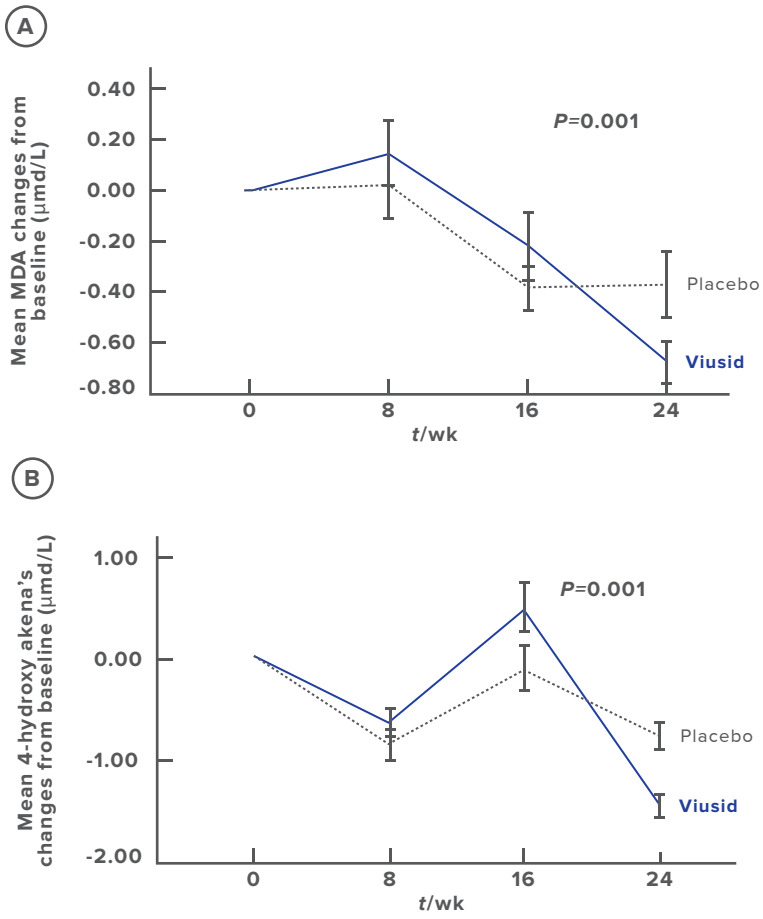
VIUSID induces the production of interferons, which promotes the activation of macrophages and, as a consequence, an increase in their phagocytic and microorganism-destruction properties.31

Viusid contains powerful antioxidants that can help eliminate free radicals' negative effects, helping to keep the body healthy and in a homeostatic balance.[29]

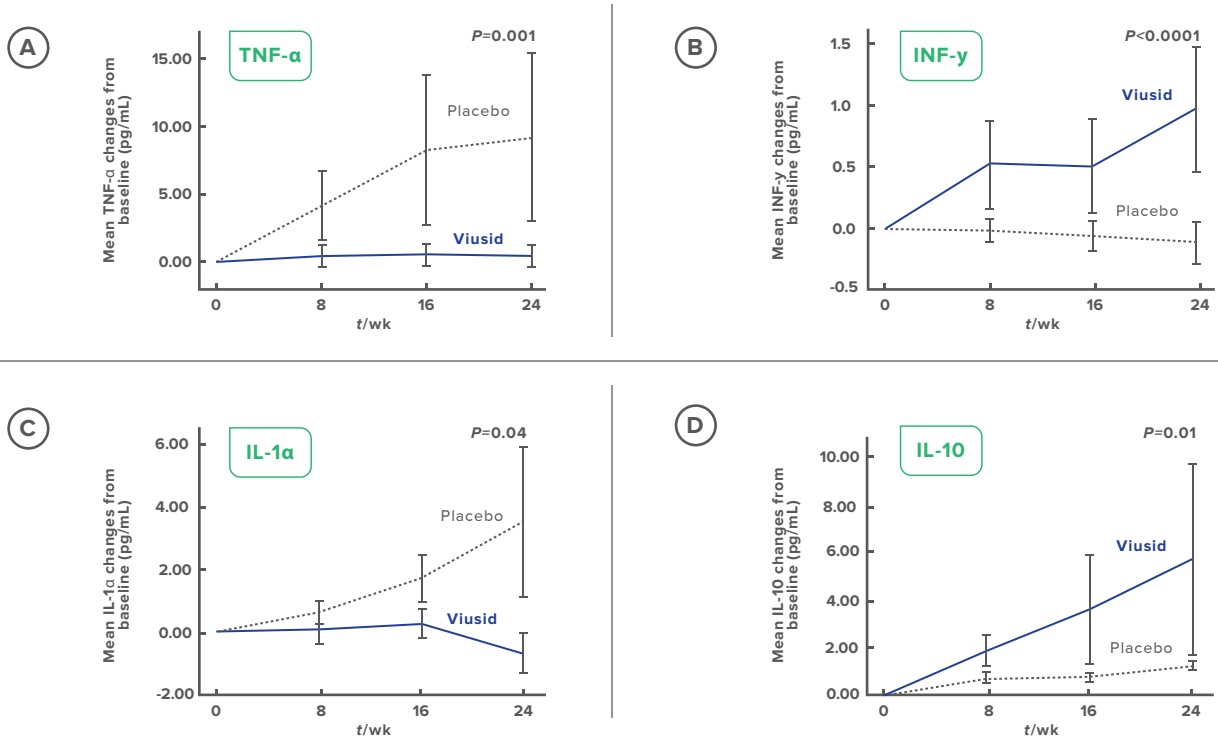
Numerous studies have found it to be therapeutically effective as an immunomodulator, such as the one published by Gómez et al.[29], which analysed the antioxidant and immunomodulatory effects of Viusid in patients with chronic hepatitis C and found a significant reduction

in MDA and 4-hydroxyalkan levels (antioxidant effect) and a marked increase in IFN-gamma (effect of antiviral activity) and IL-10 (an anti-inflammatory cytokine), as well as a significant reduction in IL-1 (a pro-inflammatory cytokine).

Antioxidant effect



Immunomodulatory effect



PRESENTATION AND DOSAGE

VIUSID

Preventative

1 sachet a day, for an unlimited period.

Immunomodulator

1 to 3 sachets per day, depending upon the clinical presentation.

'Viusid, a nutritional supplement, increases survival and reduces disease progression in HCV-related decompensated cirrhosis: a randomised and controlled trial' [40]

Eduardo Vilar Gómez, Yoan Sánchez Rodríguez, Ana Torres González, Luis Calzadilla Bertot, Enrique Arús Soler, Yadina Martínez Pérez, Alí Yasells García, María del Rosario Abreu Vázquez. British Medical Journal, BMJ Open (2011). doi:10.1136/bmjopen-2011-000140 - Trial registration number: http://ClinicalTrials.gov (NCT00502086).

Objectives: Viusid is a nutritional supplement with a proven antioxidant effect and immunomodulatory properties that may have beneficial effects on cirrhosis, and on clinical parameters such as survival, disease progression and carcinoma progression (HCC). This study analysed the safe, effective use of Viusid in patients with HCV-related decompensated cirrhosis.

Design: A double-blind, placebo-controlled, randomised study was conducted in a tertiary care teaching centre (National Institute of Gastroenterology, Havana, Cuba). The authors randomly selected 100 patients with HCV-related decompensated cirrhosis to receive either Viusid (three sachets orally per day, n¼50) or placebo (n¼50) for 96 weeks. The study's primary parameter has been overall survival at 96 weeks; in addition, the results show disease progression times, diagnosis of HCC, a worsening according to the Child-Pugh scale and according to the Model for End-Stage Liver Disease, as well as the time lapsed before a new onset or relapse for each major clinical complication secondary to portal hypertension at 96 weeks.

Results: Viusid has shown a significant improvement in overall survival (90%) compared to the placebo (74%) (HR 0.27, 95% CI 0.08 to 0.92; p = 0.036). A similar improvement is also seen in the disease progression of patients treated with Viusid (28%) compared to the control group (48%) (HR 0.47, 95% CI 0.22 to 0.89, p = 0.044). On the other hand, Viusid's beneficial effects are observed in class B or C patients on the Child-Pugh scale, but not in class A patients on said scale. The cumulative incidence of HCC has been significant in patients treated with Viusid (2%) compared to placebo (12%) (HR 0.15, 95% CI 0.019 to 0.90; p = 0.046). Viusid was well tolerated.

Conclusions: The results indicate that treatment with Viusid leads to a marked improvement in overall clinical outcomes such as survival, disease progression and HCC development in patients with HCV-related decompensated cirrhosis.

Clinical response of patients with acute fever treated with the Viusid nutritional supplement

http://www.portalesmedicos.com/publicaciones/articles/3284/1/Respuesta-clinica-de-pacientes-febrilesagudos-con-en-el-tratamiento-del-suplemento-nutricional-Viusid.html

Author: **Dr Mayra Carrasco García**
Published: **17/05/2011**

Introduction

This study evaluated the therapeutic effect of Viusid in adult patients diagnosed with acute febrile illness due to possible viral causes, verified by clinical parameters, supported by haematological and serological analysis, where appropriate.

Objective

Understand the therapeutic effect of the nutraceutical Viusid.

Methodological design

Two groups of 50 patients have each been evaluated. One trial group received one dose of Viusid every eight hours for six days, apart from the standard treatment, and the control group received only the standard treatment (antipyretics, oral hydration or venepuncture). There was no difference in terms of sex or age group. Patients who were on antioxidant therapy or who were not interested in participating in the study were excluded. The main variables used for this evaluation were the clinical variables (including temperature measurements) and were applied before the medication was introduced, on the 3rd and on the 6th (last) day of study. Inclusion criteria were: fever with or without respiratory manifestation and general non-specific symptoms.

Results

The group that received Viusid showed a more effective recovery of non-specific clinical symptoms and fever relief compared to the control group. No adverse events have been identified.

THE EXPERIMENTATION OF GLYCYRRHIZINIC ACID – APPLICATION IN THE TREATMENT OF HEPATITIS B AND C IN PREGNANT WOMEN[40]

KUZMIN V. N., et al. - Moscow State University of Medicine and Dentistry (Russia)

Viral hepatitis B and C in pregnant women is one of the most pressing issues in modern medicine. The use of standard therapies such as interferon-gamma (IFN-γ) and nucleotide analogues is contraindicated in pregnancy. It is imperative to identify natural biologically-active preparations with immunomodulatory action that can be effective against the hepatitis virus with no significant side effects during long-term administration.

The objective of this research has been to calculate the effectiveness and safe use of the treatment of hepatitis B and C (HBC) in pregnant women using the nutraceutical Viusid (Catalysis, S.L., Spain) which is a compound that contains glycyrrhizinic acid (GA) in its formulation, in addition to amino acids, vitamins and trace elements.

Seventy-five pregnant women between the ages of 19 and 32 were studied during their third trimester. Hepatitis B has been verified in 42 of them and hepatitis C in 33.

The following research methods have been applied for the course's clinical diagnosis and to control the treatment's efficiency:

- serology - hepatitis B (HBSAg, HbeAg; antiHBS, antiHBE) and hepatitis C (antiHCV) markers;
- biological (HBV DNA, HCV RNA);
- biochemistry (TGO, TGP, bilirubin, alkaline phosphatase);
- ultrasound of liver, foetus and placenta.

All patients have received basic therapy (detoxification and metabolic therapy, general restorative and nutritional therapy).

In addition to the basic therapy, the 53 patients (30 patients with hepatitis B and 23 with hepatitis C) received 1 sachet (32 g) of the nutraceutical Viusid 3 times a day for 1 month between the 30th and 32nd week of gestation.

All patients exhibited elevated levels of transaminase (double or more compared to normal levels) and the viral load exceeded 1 million copies (5 + in solution 1:10000) and diffuse liver alterations were detected (ultrasound).

Patients who received Viusid had a faster clinical recovery compared to the control group (n=22). In addition, both biochemical parameters (transaminase, bilirubin and alkaline phosphatase levels) and viral load decreased in hepatitis B patients. Another major factor is that hepatitis B and C patients who received Viusid had a lower rate of gestational complications compared to the control group.Thus, the Viusid supplement containing glycyrrhizinic acid is clinically effective in treating viral hepatitis B and C in pregnant women.

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