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CELL THERAPY

Fulvic Acid
Information and research[1]

Characteristics of Fulvic Acid

Fulvic acid is rapidly on its way to developing the health of healing miracles of the 21st Century. Interest in the medical community has been escalating rapidly in the past few months as Scientists and Doctors throughout the world are beginning to discover fulvic acid and are starting to recognize its extraordinary potential. This will increase dramatically now that we are beginning to release our information to the world via the Internet.

We are now receiving requests for supplies of fulvic acid and its related information from prestigious scientists and research clinics in the United States and abroad. The excitement that is being generated is simply amazing.

In reviewing and evaluating these reports, it is important to bear in mind that leading scientists agree with Roger J. Williams in recognizing the following fact; "the building blocks present in the metabolic machinery of human beings are, in the great majority of cases, exactly the same as the building blocks contained in the metabolic machinery of other organisms of extremely different types." *–Roger J. Williams*

The majority of research and experimentation that has been done on fulvic acid is in relation to plants. Yet human beings have been ingesting fulvic acid complexes regularly for over 60 years in supplemental form, and for thousands of years from natural food and plant sources. Accumulating testimonies continue to show that the beneficial properties related to plant studies and cells hold true in relation to animals and humans as well, as clinical research is currently underway, and updated information will be forthcoming.

Preliminary findings show that the most prominent diseases and health problems of our day have been dramatically effected in positive ways by supplementation or treatment with fulvic acid and other preparations enhanced or created with fulvic acid.

Uses are beneficial to humans and are not the only focus here. The known agricultural benefits have enormous potential to heal the world. Yet the majority of the agricultural community is critically unaware of the implications. Industrial use for treatment of sewage and landfill wastes, neutralization of radioactive and toxic wastes, and a myriad of other uses are just beginning to be realized. Fulvic acid has the potential to heal the Earth!

Fulvic Acid Major Attributes

World's Finest Electrolyte1 Fulvic Acid is an organic natural electrolyte that can balance and energize biological properties. It comes into contact with[2] in electrolyte as a substance that is soluble in water or other appropriate mediums that is capable of conducting electrical current[3].

The power of an electrolyte that has been shown in separate tests on animal cells (giant amoebae); to be able to restore life in what researchers termed "a beautiful demonstration" and "astonishing." When the electrolyte potential was taken away during the test, the cell ruptured and disintegrated into the surrounding fluids causing death. These studies show convincingly that the physical well being upon reintroducing electrical potential, enabling cells reconstruction to become active and healthy[4].

It was also determined from these same studies, that similar results could be expected of the progressive weakness among humans resulting from: unchecked hemorrhages, overwhelming emotional stress, uncontrolled infections, unbalanced diet, prolonged loss of sleep, and surgical shock. These examples are all accompanied by a steady decrease in electrical potential that can eventually be reduced to zero at death. These studies show convincingly that the physical well being of plants, animals, and humans is determined by proper electrical potential[5].

Fulvic acid has proven to be a powerful organic electrolyte, serving to balance cell life. If the individual cell is restored to its normal chemical balance thereby turning its electrical potential, we will have given life where death and disintegration would normally occur within plant and animal cell[6]. Fulvic acid has the outstanding ability to accomplish this objective in numerous ways[7].

Promotes Electrochemical Balance as Donor or Receptor

Fulvic acid is available at times as an electron donor and at other times as an electron acceptor, based on the cells requirement for balance[8]. One reaction that occurs is when the chemical species loose electrons as a donor. The other reaction is a reduction in which the active species gains electrons as an acceptor[9].

A recent study of the binding donor molecule to fulvic acid in a solution revealed direct evidence for donor-acceptor charge transfer mechanisms[10.] Trace minerals in

the fulvic acid electrolyte could also be beneficial in this process by serving as electrode[11].

Most Powerful Natural Free Radical Scavenger & Antioxidant Known[12]

Free radicals of fulvic acid behave as electron donors or acceptors, depending upon the need for balance in the situation[13]. Fulvic acid can in some ways take part in oxidation-reduction with transition metals reactions[14].

Complexes Dissolve Minerals & Trace Elements[15]

Fulvic acid is especially active in dissolving minerals and metals when solutions are in water. The metallic minerals simply dissolve into ionic form, and disappear into the fulvic structure becoming bio-chemically reactive and mobile. The fulvic acid actually transforms these minerals and metals into elaborate fulvic acid molecular complexes that have vastly different characteristics from their previous metallic mineral form. Fulvic acid is nature's way of "chelating" metallic minerals, turning them into readily absorbable bio-available form. Fulvic acid also has the unique ability to weather and dissolve silica that it comes in contact with.

Enhances Nutrients[16]

Fulvic acid enhances the availability of nutrients and makes them more readily absorbable, allowing minerals to regenerate and prolong time of essential nutrients. It prepares minerals to react with cells and allows minerals to inter-react with one another, breaking them down into the simplest ionic form, chelated by the fulvic acid electrolytes.

Transports Nutrients[17]

Fulvic acid readily complexes with minerals and metals making them available to plant roots and easily absorbable through cell walls. It makes minerals such as iron, that are not usually very mobile, easily transported through plant structures. Fulvic acids dissolve and transpose vitamins, coenzymes, auxins, hormones, and natural antibiotics[18] that are generally found throughout the soil making them available.

These substances are effective in stimulating even more vigorous and healthy growth[19], producing certain bacteria, fungi, and actinomyceles in decomposing vegetation in the soil. It has been determined that all known vitamins can be present in healthy soil[20].

Plants manufacture many of their own vitamins, yet these from the soil further supplement the plant. Upon ingestion animals and humans easily absorb these nutrients, due to the fact that they are in the perfect natural plant form as nature intended. Fulvic acid can often transport many times its weight in dissolved mineral elements[21].

Catalyzes Enzyme Reactions[22]

Fulvic acid has close association with enzymes[23] that increases activity of enzymes and especially influences respiratory catalysts. Fulvic acids increase the activity of several enzymes including alkaline phosphates, transaminase, and invertase.

Increases Assimilation[24]

Fulvic acid organic metal complexes are of a low molecular weight[25], low molecular size, and are capable of a high degree of penetration into cells. Fulvic acid complexes and chelates are able to readily pass through semi-permeable membranes

such as cell walls. It is important to note its been determined that fulvic acids not only has the ability to transport nutrients through cell membranes, but also sensitizes cell membranes and various physiological functions as well[26].

Stimulates Metabolism[27]

Fulvic acid appears to cause the genetic mechanism of plants to function at a higher level. It has been concluded that when plant cells are exposed to fulvic acid it can improve growth[28]. Oxygen is absorbed more intensely in the presence of fulvic acids[29].

Fulvic acid aids in penetrating plant roots[30], relieves oxygen deficiency, increases the vital activity of cells, and changes the pattern of the metabolism of carbohydrates, resulting, in an accumulation of soluble sugars. These soluble sugars increase the pressure of osmosis inside the cell walls and enable plants to withstand wilting, which enhances growth stimulation to the immune system[31].

Detoxified Pollutants[32]

An important aspect of Fulvic acid is related to their sorptive interaction with environmental chemicals, either before or after they reach concentrations, toxic to living organism's[33]. Fulvic acid rapidly detoxifies the toxic herbicide known as Fulvic Acid[34] rapidly detoxifies Paraquat. It has a special function with respect to the demise of organic compounds applied to soil as pesticides[35].

Fulvic acid is vital in helping form new species of metal ions, binding with organic pollutants such as pesticides and herbicides, and catalyzing the breakdown of toxic pollutants. Radioactive substances react rapidly with fulvic acid, and only a brief time is required for equilibrium to be reached[36]. All radioactive elements are capable of reacting with fulvic acid and thus forming organo-metal complexes of different absorptive stability and solubility.

Dissolves Silica

Fulvic acids are especially important because of their ability to complex or chelate metal ions and interact with silica[37]. It has been shown that these interactions may increase the concentrations of metal ions and silica found in water solutions to levels that are far in excess of their assumed dissolution ability[38].

Synthesis[39]

Fulvic acid complexes have the ability to bio-react one with another, and also interreact with cells to synthesize or transmute new mineral compounds. The transmutation of vegetal silica and magnesium to form calcium in animal and human bones is a typical example of new synthesis of minerals[40].

Enhances Cell Division and Elongation[41]

Fulvic acid stimulates and balances cells, creating optimum growth and replication conditions.

Enhances the Permeability of Cell Membranes[42]

Fulvic acids act as specific cell sensitizing agents and enhance the permeability of the cell membrane[43].

Increases Metabolism of Proteins[44]

Fulvic acid intensifies the metabolism of proteins[45]. Definitely increases DNA content in cells[46] and increases and enhance the rate of RNA synthesis[47].

Catalyzes Vitamins within the Cell[48]

Fulvic acid has the ability to complex vitamins into its structure, where they are presented to the cell in combination with complexed minerals. In this perfect natural condition, they can be catalyzed and utilized by the cell. In absence of adequate trace minerals, vitamins are unable to perform their proper function.

Chelates All Monovalent & Divalent Elements to Which It Is Exposed
Fulvic acid has the power to form stable water-soluble complexes with monovalent, divalent, trivalent, and polyvalent metal ions. It can aid the actual movement of metal ions that are normally difficult to mobilize or transport[49]. Fulvic acids are excellent natural chelators, cation exchangers, and are vitally important in the nutrition of cells.

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