

## NAC / N-acetyl-cysteine /

@Supports Glutathione Synthesis

@Supports Biotransformation of Toxicants/ pollutants/

@Supports Antioxidant activity in cells

NAC (N-acetyl-cysteine) , derivative of the amino acid L-cysteine, assists in healthy antioxidant and detoxification mechanisms in the body.

NAC supports antioxidant activity by neutralizing hydrogen peroxide, hypochlorous acid, and hydroxyl radical and also serves as a source of sulfhydryl groups. In addition, NAC enhances production of the glutathione—a key component of both antioxidant and detoxification enzymes.

NAC is known for its support of normal mucous production and may positively assist in respiratory function and eye health, especially when consumed over a prolonged period.

NAC may protect cell and tissue health by supporting normal metal status in the body.

NAC may significantly increase circulating levels of glutathione in the body, which is then incorporated into antioxidant and detoxification enzymes/ glutathione peroxidase, glutathione reductase, Glutathione S-transferase./ Through the activity of these enzymes, glutathione directly supports antioxidant activity, phase II detoxification, breakdown of metabolites, toxicants , and other compounds in the body.

A variety of factors may determine glutathione requirements, including level of exposure to toxins/ pollutants , increased phase I detoxification activity, and overall need for antioxidant support. Maintaining glutathione levels may be important to maintaining the health of the immune systems, respiratory system and hepatic functions, as well as supporting antioxidant protection of lipids and proteins and supporting the normal response to inflammation

NAC helps immune system to fight viruses, microbes . Research showed, in vitro study, that “ after influenza virus and RSV / Respiratory Syncytial Virus / infection there is an increase in intracellular levels of H<sub>2</sub>O<sub>2</sub> /oxidants and a decrease in intracellular thiols. NAC restored this imbalance by decreasing the H<sub>2</sub>O<sub>2</sub> concentration and restoring thiol levels. As a consequence , virus titers decreased and viral proliferation was inhibited. “

NAC may restore epithelial functions after RSV/ respiratory syncytial virus / infection via inhibition of the expression of adhesion molecule and RSV replication , and by restoring antioxidant capacity, intracellular H<sub>2</sub>O<sub>2</sub> levels and glutathione content in normal human bronchial epithelial cells/ PubMed 23118923