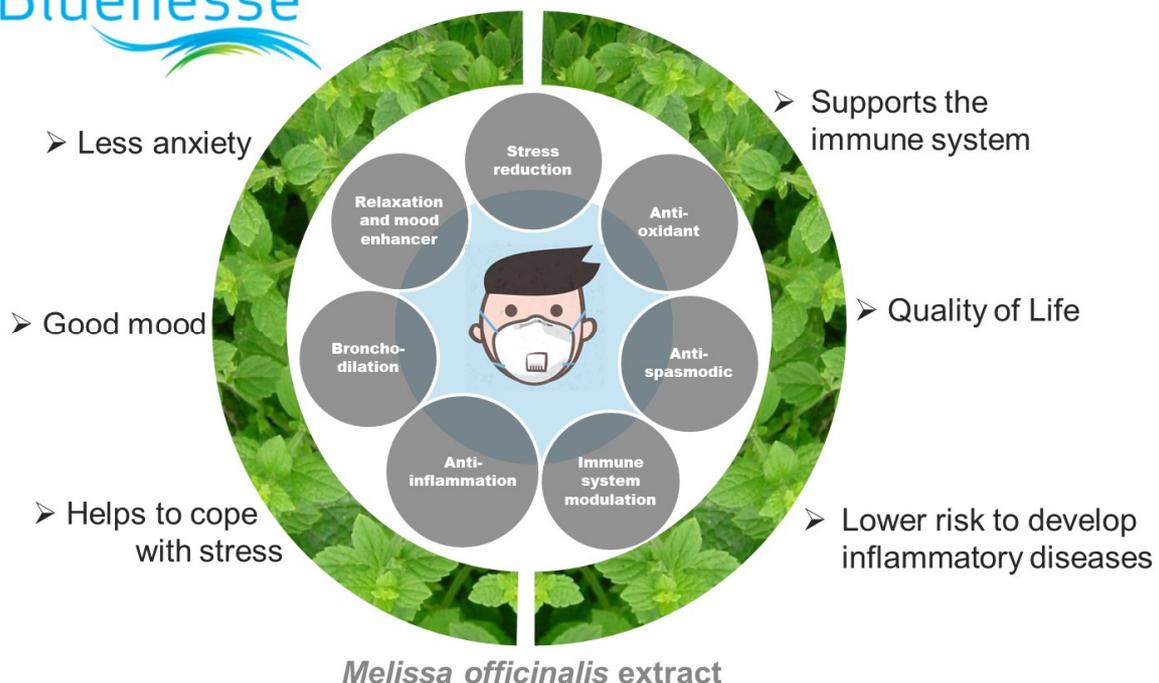


The immune system is commonly assumed to respond to pathogens such as bacteria and viruses. However, environmental factors, like air pollution, chemicals, pollen, UV light, mental stress, and foods may also interfere with the immune system, often producing unwanted effects, like allergies or even autoimmunity.

The mental stress plays an important role, when the environmental stressor is known, like in cause of fine particle pollution or a pandemic virus outbreak. Fear may create mental signals not only influencing the immune system but also causing real symptoms like cough or cramps.

The immune system can be positively influenced by natural exposure levels to bacteria, healthy lifestyle or a healthy diet.



Vital Solutions offers Bluenesse®, a science-based branded ingredient, which supports quality of life, when environmental factors bring our mood and immune system out of balance.

Bluenesse®

- Bluenesse® is an innovative Lemon balm extract, supporting resistance of the immune system against mental and physical stress.
- Results of several scientific studies have shown that Bluenesse® significantly supports a calm and good mood on demand as well as helps to cope with stress
- Bluenesse® inhibits GABA Transaminase, which degrades GABA, a neurotransmitter that supports that stressful situation like the fear for air-pollution, bacteria or viruses do not lead to an overloaded neuronal communication causing panic
- It inhibits MAO B, an enzyme which degrades Dopamine, which is especially responsible to trigger motivation and good mood
- Environmental factors causing stress trigger an increase of the stress hormone cortisol, which set the nervous system and metabolism on alarm, including the immune system. When we are stressed, we are more likely getting the flu or another viral infection or have a higher risk to develop skin irritations, asthma or gastric ulcers
- Stress & Immune system
 - Acute stress may have a short term beneficial effect on the immune system, but unfortunately stress is a constant factor in today's lifestyle and chronic stress negatively effects the immune function
 - Research has clearly established that stress deregulates or even inhibits the immune system, mediated via the stress hormone cortisol. The outcome is a shift from the Th1 to Th2 immune response, which consequently impairs resistance to infectious diseases, cancer and triggers chronic inflammation. In detail, stress leads to a decreased number of natural killer cells, a suppression of the lymphocyte response and an increase of pro-inflammatory mediators, like TNF alpha or interleukin 6
 - Bluenesse® significantly reduces stress-induced cortisol levels and thereby enables physical and mental recovery, important for a balanced defense reaction

