

Improving gut health – naturally

aXivite – pure efficiency for improved health

The health benefits of chilli with its active ingredient capsaicin are well established in science. aXivite's active ingredient is the innovative Phenylcapsaicin, a patented nature analogue of capsaicin. With its high purity, where the pungency is greatly reduced, a very high bioavailability and no impurities or genotoxicity it is a fantastic innovation for weight control, better gut health, sports nutrition, and as a bioenhancer.

Pure efficiency

Phenylcapsaicin is a capsaicin-engineered molecular structure, that introduces a triple bond within the phenyl group that offers several benefits compared to its naturally occurring analogue. It has a purity of 98%, is easy to handle with 1% formulation in powder form and is stable in production with a high bioavailable making it very potent. Because of its higher efficiency regarding uptake, you also need a much lower dosage. It is better suited for industrial production compared to natural capsaicin, due to its higher purity, reliability, and lower price.

Pungency control

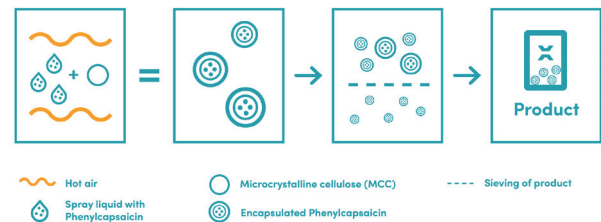
To control the pungency, aXichem has developed a unique microencapsulation, engineered for specific release.

Safe to use

The unique microencapsulated active ingredient at 1% concentration, also serves as an easy-to-handle food additive which can be further developed into a finished product. According to several tests, phenylcapsaicin shows no sign of genotoxicity, whereas a high dosage of natural pure capsaicin can be toxic.

This makes aXivite safe for long-term use. Approved by Novel Food in the EU and GRAS Food in the US, we have a guaranteed safe and approved product for the market, which provides improved industrial efficiency combined with strong sustainability.

aXivite process description



- 1) The core material microcrystalline cellulose (MCC) particles is fluidized by hot air.
- 2) A spray liquid containing Phenylcapsaicin is sprayed onto the MCC. The hot air dries the particles resulting in encapsulated Phenylcapsaicin on MCC particles.
- 3) Oversized particles are sieved and removed.
- 4) Particles are packaged into ready product.



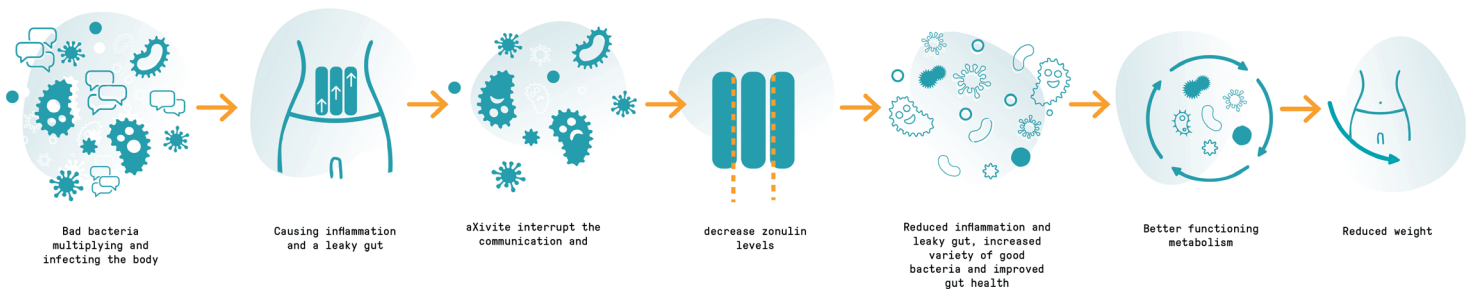
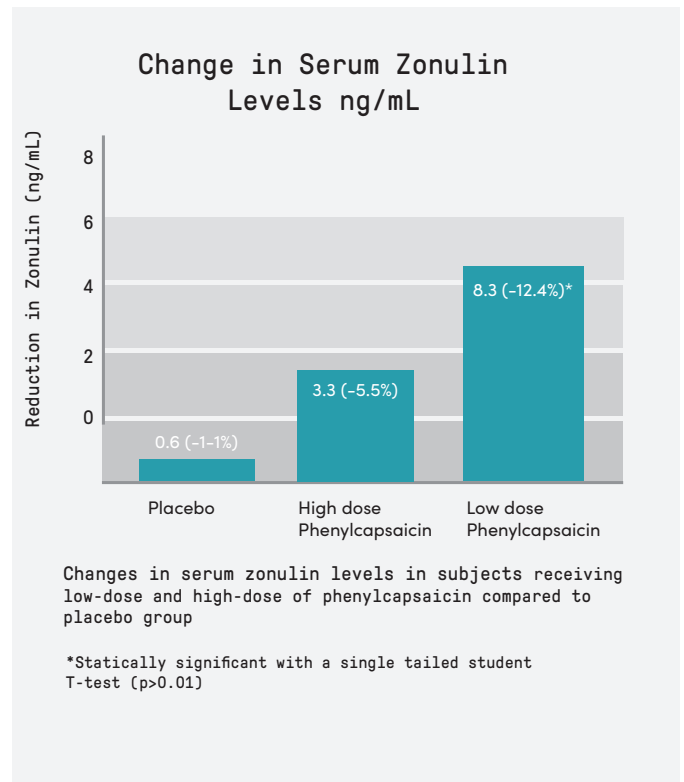
αXivite tested and proven - Quorum sensing, Zonulin and Gut Health

Capsaicin is well established in science, for use in products to promote good gut health. αXivite eases irritation in the gut and promotes a healthy gut microbiota strengthening the protective lining of the gastrointestinal tract. It increases metabolism and lowers energy intake. Studies also show significantly decreased serum levels of zonulin, the critical gut barrier biomarker, which reduces gut inflammation, moderate leaky gut syndrome and balance intestinal flora.

Clinical study about supporting a healthy gut

Thirty-nine overweight but otherwise healthy men and women (26 females, 13 males) participated in this first-in-human pilot study conducted by the Center for Applied Health Sciences in Canfield, Ohio¹. Individuals were randomly assigned to a control group, a high-dose phenylcapsaicin group, and a low-dose phenylcapsaicin group in the eight-week, double-blind, parallel-group trial.

The most important result to emerge from this trial is that of the reduction in serum zonulin levels. Such a drop in this biomarker could indicate an effect on intercellular tight junctions within the intestines, resulting in reduced intestinal permeability, improved gut barrier function and proactive modification of immune responses within the gut environment.



Mute the bad bacteria – αXivite as a quorum sensing inhibitor

To further research the effect αXivite has on gut health, a study was done on phenylcapsaicin as a quorum sensing (QS) and swarming inhibitor for gastrointestinal (GI) pathogenic bacteria².

In this study, phenylcapsaicin demonstrated the ability to inhibit QS in the gut. The study focused on interfering with the QS system using small molecules to block the activation of the AHL receptor protein normally used as the autoinducer. By inhibiting the communication between the “bad bacteria,” inflammation can be arrested, dysbiosis can be overcome, and as metabolic activity is elevated, improvements in weight and body mass index can be realized.



Results:

- ➔ Preventing dysbiosis – unbalanced microbiota where the bad bacteria are too many
- ➔ Reduce leaky gut syndrome
- ➔ A healthier gut improves metabolism leading to weight loss
- ➔ Modulating the microbiota – increasing the variety of the good bacteria
- ➔ Reduce gut inflammation

¹. Proprietary research, αXichem AB, data on file.
². Proprietary research, αXichem AB, data on file.