



OLIGONOL® IS GOOD FOR COLD HANDS AND FEET; WHAT ABOUT WHEN YOU ARE TOO HOT?

Whether you are taking an afternoon jog, preparing for a track-and-field match, doing intensive weight exercises, or simply working on your backyard, summer heat can do you a lot of harm if you do not take proper precautions. High temperatures could cause excessive sweating and dehydration. An elevated body temperature could also induce physiological changes that resemble the state of fever.^{1,2}

The negative impact that high temperature has on the body is generally termed “heat stress,” which can be induced environmentally or through exercise. Heat stress threatens health and safety as well as performance. Traditionally, strategies to reduce the impact of heat stress involve taking sufficient fluid, including nutrient-enriched sports drinks that are rich in carbohydrates, electrolytes, proteins, and glycerol.³⁻⁵ In addition to these traditional measures, supplementing with Oligonol, a natural bioactive with anti-oxidant properties, could also significantly reduce the negative impact that heat stress has on the body.^{1,6} In fact, clinical evidence points out that Oligonol could be especially beneficial for athletes who spend a lot of time in high-temperature conditions.

Existing research on human subjects has shown that Oligonol improves peripheral circulation to the skin, hence upregulating body temperatures on the surface and limbs.⁷ The possible mechanism could be increased nitric oxide (NO) production. Current evidence shows Oligonol is able to reverse the impaired production of NO in endothelial cells as a result of

high glucose.⁸

While this benefit of Oligonol is attractive to individuals who play certain sports, emerging studies also suggest that taking Oligonol may further improve exercise performance by helping the body adapt to high heat-stress situations.

A recent placebo-controlled study with 19 healthy subjects, average age 21.6 years, looked at whether Oligonol attenuates the rise in body temperature and regulates sweating under induced heat stress. An intake of 200 mg of Oligonol before half-body immersion in hot water (42° C) resulted in a lessened increase in body temperature and reduced the amount of whole-body sweat loss, compared with the placebo group. Additionally, serum aldosterone was maintained at a relatively low degree, and serum sodium was maintained at a relatively high degree in the Oligonol group.¹ This series of findings means that the intake of Oligonol at 200 mg could prevent excessive sweating, which leads to weight and sodium loss due to sweating. Sodium retention is very crucial in terms of avoiding a heat stroke and maintaining electrolyte balance during physical exercise.

A series of biomarkers increase during fever. One is prostaglandin E2 (PGE2), which is thought to be the most direct cause of fever response because it binds to receptors on thermoregulatory neurons in the hypothalamus.⁸ Another chemical, cyclooxygenase-2 (COX-2) is responsible

for the formation of PGE₂.⁹ The three other biomarkers, cortisol, IL-1 β , and IL-6, which all have a role in inflammation, together with PGE₂ and COX-2, all play a sequential role in the orchestration of fever.² Previous studies have demonstrated that Oligonol decreased serum concentrations of cortisol, IL-1 β , and IL-6 after heat stress.¹⁰ This led researchers to investigate whether taking Oligonol could lessen the fever-inducing impact of heat stress. An additional clinical trial with 19 healthy subjects, taking 100 mg of Oligonol before immersion in hot water, indeed found that Oligonol decreased serum level of PGE₂ and COX-2 after induced heat-stress.⁶

Studies of Oligonol have found it to be an effective anti-inflammatory natural product in exercise-induced inflammation. With the new evidence supporting its role in downregulating body temperature, reducing sweat-related weight loss, and controlling of fever-associated biomarkers, this natural compound is an exciting new generation of sports-drink ingredient to accompany physically active individuals in hot climates.



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