

# DNA Sequencing Confirms Non-Toxic Subspecies of *Aphanizomenon flos-aquae* from Upper Klamath Lake

KLAMATH FALLS, OR, UNITED STATES, October 25, 2024 /EINPresswire.com/ -- Recent advancements in genomic research have led to a pivotal discovery in the study of *Aphanizomenon flos-aquae* (AFA), a cyanobacterium often regarded as a homogeneous species. The newly completed DNA-based study, conducted by SeqCoast Genomics in Portsmouth, NH, has confirmed that AFA harvested from Upper Klamath Lake is genetically distinct from other AFA strains, confirming years of safety data about this dietary supplement.

## New Genome Sequencing Proves Species Differentiation

Advanced genomic analysis confirms that AFA from Upper Klamath Lake is part of a genetically unique subspecies that is different from the few AFA strains that been reported to be toxin producers. Genome sequencing now recognizes at least 18 distinct varieties of AFA, each possessing unique characteristics that distinguish them from one another. This finding brings clarity to years of misinterpretation of the scientific literature that oftentimes treated AFA as a homogeneous species.

## Non-Toxic Strain from Upper Klamath Lake

Most significant in this discovery is the confirmation that AFA from Upper Klamath Lake, —identified as AFA MDT14a—is incapable of producing harmful toxins such as cylindrospermopsin, microcystin, saxitoxin or anatoxin-a. This finding directly challenges the general belief that all AFA species pose risks of toxicity, thus confirming the safety of consumable products derived from this particular strain. These results align with the broader understanding, after decades of rigorous testing, that AFA from Klamath Lake is non-toxic.

## Health Benefits of AFA

The health benefits of AFA consumption have been documented for more than two decades. AFA supports immune functions, more specifically the activation and migration of NK cells, it contains phycocyanin that has been shown to have strong anti-inflammatory properties, and it contains phenylethylamine documented to support mental clarity and mood elevation. AFA is also the first natural plant-based product documented to support stem cell mobilization and function in the body, explaining the broad spectrum of health benefits reported by consumers.

## Updating AFA Studies Based on Genomic Differentiation

The recent genomic evidence distinguishing *Aphanizomenon flos-aquae* (AFA) strains compels a reexamination of many wrongful interpretations and confirms the safety of Klamath Lake AFA as a dietary supplement. This new differentiation between toxic and non-toxic strains highlights the need to be extremely cautious when reading previous interpretations of the scientific literature. In line with scientific progress, previous literature must be reassessed to reflect this specificity, especially regarding nutritional and toxicological properties. Although AFA has been registered worldwide as a dietary supplement on the basis of years of testing establishing its safety, this new finding will be a new tool for researchers, regulatory agencies, and public health officials in confirming the safety of AFA.

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Scott Ohlgren  
e3live  
scott@e3live.com

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