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AHARA Mushrooms Publishes Most Comprehensive Metabolomic Analysis Ever Conducted on a Mushroom Supplement

Maryland biotech startup reveals first-of-its-kind data from independent metabolomics laboratory

ROCKVILLE, Md., Feb. 17, 2026 — AHARA Mushrooms today published the results of the most comprehensive metabolomic analysis ever conducted on a mushroom supplement. The analysis, performed by one of the world's leading metabolomics laboratories using dual-panel CE-MS and LC-MS mass spectrometry, revealed over 1,000 uniquely identified compounds in AHARA's proprietary Reishi extract — including adenosine precursors, GABA, glycine, oleamide, 26 ganoderic acids, 35 short-chain fatty acids and 27 bioactive peptides.

The compounds span 17 distinct metabolic pathways including GABAergic, cholinergic, anti-inflammatory, neuroprotective, purine/adenosine, serotonergic, endocannabinoid and gut-brain axis, all naturally present in a single water-based extract.

Adenosine, the brain's primary sleep-pressure signal, is supported by adenine and hypoxanthine in the extract, feeding directly into adenosine production. GABA, the brain's main inhibitory neurotransmitter, is present alongside neurosteroid potentiators that amplify its effect. Glycine supports sleep quality as an inhibitory neurotransmitter and NMDA receptor co-agonist. Oleamide, the fatty acid amide the brain produces in cerebrospinal fluid as a sleep signal.

The extract also contains 26 ganoderic acids, anti-inflammatory triterpenoids unique to Reishi in all of nature. These molecules suppress the master inflammatory signals disrupting sleep, worsening anxiety and damaging neurons. Short-chain and medium-chain fatty acids deliver gut-brain signaling molecules directly, skipping fermentation entirely.

In the mushroom industry, the consensus has been that extracting ganoderic acids requires harsh organic solvents. AHARA's proprietary water-based process recovered 26 without ethanol or methanol, preserving the full spectrum of bioactives in a single aqueous extract.

Developed under Dr. Subhas Malghan's leadership as co-author of the FDA's first nanotechnology guidance, AHARA's nanofibers deliver the full compound spectrum through mucosal absorption, bypassing first-pass metabolism.

"Every step of our process is American," said Aaron Grimes, MBA, co-founder of AHARA Mushrooms. "We grow and extract our mushrooms in the U.S, and validate our products at a globally recognized metabolomics laboratory. We're not just importing extracts and slapping a label, we control the supply chain and the science".

About AHARA Mushrooms

AHARA Mushrooms is a Rockville, Maryland-based biotech company developing scientifically validated mushroom therapeutics. Founded by Ajay Malghan (MFA), Dr. Subhas Malghan (Ph.D., UC Berkeley) and Aaron Grimes (MBA). The full white paper is available at aharamushrooms.com.