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OUTLOOK

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RIBOSE, CAFFEINE MAY BETTER FIGHT FATIGUE WHEN COMBINED

When used alone in high doses, caffeine may provide an energy boost. But it might also result in side effects such as increased anxiety, elevated heart rate and blood pressure, and reduced blood flow. A new mouse study, however, suggests that adding D-ribose may counter some of these caffeine side effects, and that the two nutrients combined may synergistically provide a better energy boost than either ingredient individually.

The mouse study was an exercised-induced fatigue model testing for the effects of caffeine, glucose, and a ribose ingredient from Bioenergy Life Science Inc. (Minneapolis). Mice were fatigued by being made to swim to the point of exhaustion for three days prior to the study's start. On the fourth day, mice were given one of four treatments: (1) glucose only, (2) caffeine only (at doses up to 75 mg/kg/day), (3) ribose only (at doses up to 1 g/kg/day), and (4) a 50/50 combination of ribose and caffeine. By analyzing swim times and body concentrations of nucleotides such as adenosine triphosphate (ATP), the researchers then judged whether the mice's endurance dropped, stayed the same, or improved.

The ribose-caffeine combination achieved the best improvements in swim time, at 150%. The ribose-only treatment also improved swim time, but by a lower 135%. By contrast, the caffeine-only model led to worsening endurance, and the glucose-only model saw swim time about same as the study's baseline average.

Why the drastic improvement with caffeine plus ribose? The researchers speculate that caffeine and ribose act synergistically to provide benefits. For instance, they said, D-ribose may protect the heart from any overwork caused by caffeine, while also improving energy. The researchers believe the optimal energy-boosting amount of caffeine and ribose, in a human-equivalent dose, is 4 g ribose and 10 mg/kg/day caffeine.

D-ribose is a key component of ATP. When used as a supplement, it can help to restore ATP levels, including after intense exercise.

Bioenergy Life Science says this study will soon be published. 