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## Breakthrough for amino acids in beverages



*Amino acids help sporting performance and recovery.*

**Ajinomoto** has announced an important breakthrough for the use of amino acids in beverages. Despite considerable interest in the nutritional benefits of amino acids, their bitter taste has sometimes been an obstacle in creating palatable beverage formulations. However, a team of Ajinomoto's scientists has shown that, by using amino acids in combination with a sweetener, their bitter taste can be completely masked.

The researchers prepared solutions containing arginine and the branched chain amino acids valine, leucine and isoleucine, mapping out the concentrations at which respondents judged the beverage to be too bitter. They found that as the pH value of the formulation increased, higher concentrations of amino acids could be used without creating a bitter taste. The results showed that at pH 4.5, amino acids can make up as much as 1% of the beverage. This means that good tasting sports drinks with, for example, 3,500 mg of branched chain amino acids per serving can be formulated without difficulty.

The researchers showed that the key to effectively masking the taste of amino acids is finding the correct balance between sweetness, which was provided by the low-calorie sweetener aspartame, and acidity. By using



the correct formulations, manufacturers developing drinks with increased functionality can use relatively high levels of amino acids without compromising taste. This research demonstrates Ajinomoto's commitment not just to producing the highest quality amino acids, but also to developing formulations for use in finished products.

Arginine has a range of health benefits, including reducing blood pressure and improving both immune and wound healing responses. Branched chain amino acids have been shown to significantly improve athletic performance as well as decrease recovery times following strenuous exercise, by providing fuel for the muscles.