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Amino acid bitterness overcome

AJINOMOTO reports that its scientists have shown 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.

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.