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(54) Title: BETA-HYDROXYBUTYRIC ACID COMPOSITIONS AND METHODS FOR ORAL DELIVERY OF KETONE BODIES

(57) Abstract: Beta-hydroxybutyric acid compositions for oral delivery are substantially free of beta-hydroxybutyrate salts and are effective in rapidly raising blood ketone levels without causing acute acidosis or gastrointestinal (GI) distress when consumed in sufficiently dilute form and/or as a gel or suspension. By excluding beta-hydroxybutyrate salts (e.g., less than 1% by weight) containing alkali or alkaline earth metal ions, beta-hydroxybutyric acid solutions, gels, or suspensions can deliver exogenous ketone bodies without significantly altering electrolyte balance. Although aqueous beta-hydroxybutyric acid solutions are moderately acidic with a pH of about 3.5 to 4, when diluted with sufficient water, the water acts as a pseudo buffering agent that offsets otherwise harsh acidic effects when consumed orally. Gels and suspensions can also ameliorate acidic effects by partially encapsulating the beta-hydroxybutyric acid. Beta-hydroxybutyric acid can be enriched with the R- or the S-enantiomer, a racemic mixture, pure R-beta-hydroxybutyric acid, or pure S-beta-hydroxybutyric acid.



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