

Kre-alkalyn® supplementation has no beneficial effect on creatine-to-creatinine conversion rates

Tallon MJ¹ and Child R². Kre-alkalyn® supplementation has no beneficial effect on creatine-to-creatinine conversion rates. ¹University of Northumbria, Sport Sciences, Northumbria University, Northumberland Building, Newcastle upon Tyne, United Kingdom. ²Department of Life Sciences, Kingston University, Penrhyn Rd, Kingston-upon-Thames, United Kingdom.

All American Pharmaceutical and Natural Foods Corp. (Billings, MT, USA) claim that Kre-alkalyn® (KA) is a "Buffered" *creatine*, is 100% stable in stomach acid and does not convert to creatinine. In contrast, they also claim that creatine monohydrate (CM) is highly pH labile with more than 90% of the *creatine* converting to the degradation product creatinine in stomach acids. To date, no independent or university laboratory has evaluated the stability of KA in stomach acids, assessed its possible conversion to creatinine, or made direct comparisons of acid stability with CM. This study examined whether KA supplementation reduced the rate of creatine conversion to creatinine, relative to commercially available CM (Creapure®). Creatine products were analyzed by an independent commercial laboratory using testing guidelines recommended by the United States Pharmacopeia (USP). Each product was incubated in 900ml of pH 1 HCL at 37± 1°C and samples were [sic] drawn at 5, 30 and 120 minutes and immediately analyzed by HPLC (UV) for creatine and creatinine. In contrast to the claims of All American Pharmaceutical and Natural Foods Corp., the rate of creatinine formation from CM was found to be less than 1% of the initial dose, demonstrating that CM is extremely stable under acidic conditions that replicate those of the stomach. This study also showed that KA supplementation actually resulted in 35% greater conversion of creatine to creatinine than CM. In conclusion the conversion of creatine to creatinine is not a limitation in the delivery of creatine from CM and KA is less stable than CM in the acid conditions of the stomach.

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(See <http://www.cr-technologies.net/inthenews.html>.)