Ribose *(Beta-D-ribofuranose)*

Also known as: D-riobose

Historical Perspective: Ribose, a relatively new dietary supplement, has recently gained popularity among athletes and the attention of nutritional scientists. Animal studies and clinical research on ribose started in the 1980's.

Common Uses: Ribose is a common energy source as a five-carbon sugar (pentose) that the body makes from food. Ribose is also available from ripe fruits and vegetables.

Form(s) Used: Ribose supplements can be purchased in pill, powder, or liquid forms, with powders being the most popular. There are some preparations available now containing both ribose and creatine.

Common and/or Recommended Dosage: Recommendations for daily supplementation range anywhere from 3 to 60 grams per day. Sports supplement manufacturers typically recommend two doses per day each of 2 to 10 grams. Most research studies, on the other hand, utilized 16 to 36 grams per day taken in four doses. The clinical research done on cardiac patients and individuals with genetic disorders used doses higher than 60 grams per day, which were often introduced into the vein rather than taken orally.

Potential Side Effects: Orally, ribose can cause diarrhea, decreased blood sugar (hypoglycemia), intestinal discomfort, nausea, and headache.

Food-Drug-Supplement Interactions: People taking certain antidepressants called monoamine oxidase inhibitors (MAOIs), and aspirin, should avoid ribose.

Contraindication to Use: Children and pregnant or breastfeeding women should not use ribose. People with diabetes and low blood sugar should also avoid ribose.

Research Data on Safety and Efficacy: There is insufficient reliable information available about the effectiveness of oral ribose for athletes striving to delay fatigue and speed recovery by restoring muscle levels of ATP.

Bottom-Line: The research in healthy human subjects seems to indicate that ribose has little, if any, ergogenic effect on the performance of high-intensity, short duration exercise. Moreover, ribose likely offers no benefit for aerobic/endurance activities such as running, cycling, or swimming, and it is not effective for decreasing body fat or increasing muscle tissue.

References:

1. Natural Medicines Comprehensive Database. 4th Edition. Jeff M. Jellin, Pharm D. Therapeutic Research Facility, 2002.

2. Beals K, Smith Rockwell M. Ribose: Pure energy or pure propaganda? SCAN'S Pulse. 2002; 21(2): 1-5.