

**PURCHASE, NEW YORK** – August 16, 2013 – **Nutrition 21, LLC**, a leading developer and marketer of nutritional ingredients whose health benefits are substantiated by extensive clinical research, comments on novel research published in the August 8, 2013 New England Journal of Medicine (NEJM) that suggest higher glucose levels may be a risk factor for dementia, even among persons without diabetes.(1)

One of the most common forms of dementia is Alzheimer's disease and diabetes is a known risk factor for the disease. The NEJM published study involved over 2000 people and tracked blood sugar over time in people with and without diabetes to see how it affects risk for Alzheimer's disease. Among participants with diabetes, those with higher blood sugar were 40 percent more likely to develop dementia than people with diabetes, with lower glucose levels. After nearly seven years of follow-up, 524, or one-quarter of the participants developed dementia, mostly Alzheimer's disease. Among participants who started out without diabetes, those with higher glucose levels over the previous five years had an 18 percent greater risk of developing dementia than those with lower glucose levels.

According to an article posted on the NBC Health website, "For people without diabetes, it may be that with the brain, every additional bit of blood sugar that you have is associated with higher risk and the results challenge current thinking by showing that it's not just the high glucose levels of diabetes that are a concern," said the study's leader, Dr. Paul Crane of the University of Washington in Seattle. In addition, Dallas Anderson, a scientist at the National Institute on Aging, the federal agency that paid for the study stated, "It's a nice, clean pattern, risk rises as blood sugar does. This is part of a larger picture and it adds evidence that exercising and controlling blood sugar, blood pressure and cholesterol are viable ways to delay or prevent dementia." (3)

Dementia is a top health concern among aging populations and it is estimated dementia affects 35 million people worldwide. The U.S. Centers for Disease Control and Prevention (CDC) estimates that Alzheimer's disease currently affects some 5 million Americans. These numbers are expected to increase as the Baby Boomer generation ages. Currently, there is no cure for the disease.

Type 2 diabetes, the most common form of diabetes, reduces the body's ability to utilize insulin properly. This may result in elevated blood sugar levels which in turn may cause damage to the major organs including the brain, and may even lead to death. The occurrence of type 2 diabetes is also on the rise in the United States and other Western Countries. Research over the past decade supports the role healthy glucose metabolism plays in brain health.

There is a vast body of evidence supporting the role of Chromax® chromium picolinate in healthy glucose metabolism and in maintaining healthy blood glucose levels. Additionally, a number of studies have contributed to the understanding of Chromax® chromium picolinate's role in brain neurotransmission and have uncovered key insights into the beneficial role Chromax® chromium picolinate supplementation plays in the metabolic and biochemical pathways of the brain. Robert Krikorian, Ph.D., from the Department of Psychiatry and Behavioral Neuroscience, University of Cincinnati Academic Health Center concluded that his research has shown the benefits of metabolic intervention with Chromax® chromium picolinate supplementation in supporting the improvement of age-related memory decline. This conclusion suggests that metabolic disturbances can be corrected with dietary modification and dietary supplementation.(2)

Proper cognitive function, such as memory, perception and cognition, require consistent healthy glucose metabolism in the brain. As a result, compromised metabolism of glucose can lead to a breakdown in cognitive function and have a harmful effect on overall brain health by significantly reducing brain glucose transporters. "Chromax® chromium picolinate supports brain glucose transporter function and contributes to healthy glucose metabolism, significantly affecting a healthy mood and cognitive function," commented James Komorowski, Vice President, Scientific & Regulatory Affairs at Nutrition 21.

"Nutrition 21 has invested in research and products that support this emerging understanding of the correlation between healthy glucose metabolism and a healthy brain. The NEJM article, Glucose Levels and Risk of Dementia, has drawn national and local media attention; yet current dietary supplements that support brain health and cognition are not addressing healthy brain glucose metabolism," commented Bill Levi, Vice President, Strategy & Business Development.

## About Nutrition 21

Nutrition 21 is a leader in the nutritional supplement industry. The Company is a developer and marketer of efficacious, high-value, substantiated ingredients for dietary supplements, medical foods and beverages, with Chromax® chromium picolinate being a flagship product. With many years of biotechnology and pharmaceutical experience, Nutrition 21 has the scientific platform and processes in place to create unique, patentable products that are safe and clinically effective. Rigorous preclinical and clinical trials are a key part of its product development strategy to ensure product safety and consumer trust.

Nutrition 21 currently holds over 100 domestic and international issued and pending patents for products. Many support unique claims associated with, among others, glucose metabolism, weight management, brain health, and cardiovascular health. For more information please visit: [www.Nutrition21.com](http://www.Nutrition21.com).

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#### (1) Glucose Levels and Risk of Dementia

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N Engl J Med 2013; 369:540-548 August 8, 2013 DOI: 10.1056/NEJMoa1215740

#### (2) Improved Cognitive-cerebral Function in Older Adults with Chromium Supplementation.

Krikorian, Robert; Eliassen, James; Boespflug, Erin; Nash, Tiffany; Shidler, Marcelle  
Nutritional Neuroscience, Volume 13, Number 3, June 2010, pp. 116-122(7)

#### (3) Study Ties Higher Blood Sugar to Dementia Risk

NBC News Health, <http://www.nbcnews.com/health/high-blood-sugar-not-just-diabetes-linked-dementia-risk-study-6C10871619>  
M. Marchione, AP Chief Medical Writer AUG. 7, 2013

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