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News Release

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Grapes Defend Against Inflammation and Type 2 Diabetes

New studies highlight protective actions of grapes in human cells

Fresno, CA – Can eating grapes defend against one of the biggest contributors to chronic, degenerative diseases? Yes, suggests new research presented at the Experimental Biology conference in New Orleans, Louisiana this week, which provided evidence that grapes can defend against chronic inflammation and showed just how grapes may accomplish this.

While short-term inflammation is part of the body's natural defense mechanism and critical to healing from infections or injury, it is not beneficial for the body to continually stay in that state. Chronic inflammation is extremely damaging and considered the root of many diseases including heart disease, type 2 diabetes and even Alzheimer's disease. It is stealthy and silent, wreaking havoc in the body until the clinical signs of disease call attention to the problem and the damage has been done. Additionally, it is now known that fat cells are not simply a storage place for fat, but are metabolically active and can serve as a central source of inflammation in the body.

The good news? Eating grapes may help stop chronic inflammation by preventing the activation of critical pathways that cause inflammation and by protecting cell function to prevent the onset of type 2 diabetes.

The evidence presented comes from two laboratory studies using human cells, conducted at the University of North Carolina Greensboro (UNCG) under the direction of Dr. Michael K. McIntosh. His work investigated the impact of California grapes on inflammation pathways facilitated by immune cells within fat cells or the fat cells themselves using a mix of green, red and black California grapes in the form of an extract.

In the first study, Dr. McIntosh showed that grapes were able to block inflammatory activity in immune cells of fat tissue. Additionally, grapes protected the ability of the fat cells to respond appropriately to insulin and "consume" glucose. Without this ability, type 2 diabetes may result.

In the second study, the impact of grapes on fat cells was compared to the impact of two isolated grape components, resveratrol and quercetin. While all three reduced markers of inflammation, only the whole grape extract – containing all the beneficial phytonutrients found in grapes – improved glucose uptake by the cells, which is critical to type 2 diabetes prevention. Importantly, this finding indicates that the wide variety of phytonutrients found in grapes may be working together synergistically to provide benefits not seen with individual compounds, and reinforces the rationale for consumption of whole foods.

"Our research suggests that consumption of grapes may prevent chronic inflammation and insulin resistance that is mediated by both immune cells and fat cells," said Dr. McIntosh, principal investigator of both studies. "This has powerful implications for potential improvements in the nation's nutrition and health, and future reductions in health care costs." The Experimental Biology conference is an annual scientific forum for presentation, discussion and peer review of evidence-based research in the disciplines of nutrition, pharmacology, anatomy, physiology and biochemistry.

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