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# **Cardax Pharmaceuticals Nominates Clinical Candidate Heptax for Liver Disease**

## Heptax Ameliorates Oxidative Stress Related to Liver disease and the Metabolic Syndrome

The Centers for Disease Control and Prevention reported this week that the prevalence of obesity among Americans is now over 26%. Obesity exacerbates a constellation of diseases including diabetes, liver disease, and heart disease, often in the same patient, and is referred to as “metabolic syndrome.” Low level inflammation and oxidative stress are the mechanistic underpinnings of metabolic syndrome.

The Cardax lead compound is a novel and highly bioavailable proprietary derivative of the natural dietary carotenoid astaxanthin that addresses metabolic syndrome, including liver and cardiovascular disease as well as diabetes. Preclinical animal studies with the Company’s compounds or its active metabolite have demonstrated reductions in blood pressure, triglycerides, cholesterol levels, C-reactive protein, and fasting blood glucose levels. Enzyme levels indicative of liver damage, such as ALT and AST, are decreased, pointing to an outstanding safety profile. Increases in HDL, the “good” cholesterol and increased insulin sensitivity have also been documented along with a robust improvement in thrombosis and myocardial salvage.

The Cardax drug reduces systemic inflammation and oxidative stress while localizing in the liver and the vasculature. Cellular studies have determined that this compound acts as a plasma and mitochondrial membrane stabilizer and a potent antioxidant.

“Cardax has pioneered a novel approach to treating the source of inflammation, intracellular oxidative stress,” said David G. Watumull, CEO of Cardax. “We believe this to be a new paradigm for the treatment of liver and cardiovascular disease as well as metabolic syndrome.”

“Our novel derivative of the natural carotenoid astaxanthin exhibits dramatically improved bioavailability relative to the parent compound,” adds Chief Medical Officer, Fred Pashkow, M.D. “Our drug enables the oral bioavailability and dose control required for clinical study and it is converted to the natural active metabolite in the gastrointestinal tract. It effectively combines the properties of an efficacious pharmaceutical with the safety of a natural dietary carotenoid.”

About Cardax Pharmaceuticals. Cardax Pharmaceuticals is developing a platform of proprietary, exceptionally safe, small molecule compounds that impact inflammation driven by mitochondrial oxidative stress. The Company’s first product localizes intracellularly in heart and liver tissue, including mitochondria, and is in pre-clinical development for cardiovascular and liver disease indications. Cardax Pharmaceuticals was spun out from

Hawaii Biotech in May 2006.

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