April 23, 2014

Patent Awarded for Glucosamine Cream

Two associate professors and a former Ph.D. graduate student at the University of Georgia College of Pharmacy were among those recognized this month at an Inventor's Lunch sponsored by the UGA Technology Commercialization Office for patents awarded in 2013.

Anthony Capomacchia and Warren Beach, along with Solomon Garner, Jr., ('01) received a patent for glucosamine and glucosamine/anti-inflammatory mutual prodrugs, compositions, and methods. Based on the patent approval, Garner's company, Nutraceutical Company of America, LLC, developed and launched Revalife™, a topical cream that promotes joint health.

Arthritis has been cited as the Number One cause of disability in the United States, said Capomacchia, affecting more people than cancer, diabetes or heart disease. Osteoarthritis (OA), the most common form of arthritis, is an incurable debilitating joint disease caused by deterioration of cartilage primarily in the knees, hips, hands, feet and spine. Furthermore the Centers for Disease Control and Prevention (CDC) estimate 27 million Americans suffer from OA with more women than men affected by the disease. Forecasts indicate that by the year 2030, 25% of the adult U.S. population, or nearly 67 million people, will have physician-diagnosed arthritis. Symptoms include localized pain, inflammation, reduced mobility and deformity, requiring patients to alter and manage their lifestyles to prevent further deterioration.

Common treatment for pain and inflammation of OA includes over-the-counter non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, and prescription drugs. But these only treat the symptoms, not the underlying causes, he said, and long-term use may even increase joint deterioration. Many studies have shown that glucosamine can reduce OA joint pain and inflammation, prevent further joint space narrowing and even regenerate cartilage growth to cushion the joints. However only a trace amount of orally administered doses actually reaches the diseased joints, with the rest either absorbed or excreted, or widely distributed throughout the body.

“Clearly a drug was needed that could combine the pain-relieving benefits of glucosamine with the anti-inflammatory and pain-reducing properties of NSAIDs,” said Capomacchia. “Our research aimed to do just that and more – by synthesizing a combination salve that can be applied with optimum pharmaceutical effect directly to the skin at the site of the diseased joint.”

The patent was one of 36 awarded to the UGA Research Foundation during 2013, as announced by the UGA Office of the Vice President for Research.