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Brain breakthrough

Firm working on portable device to detect brain injury

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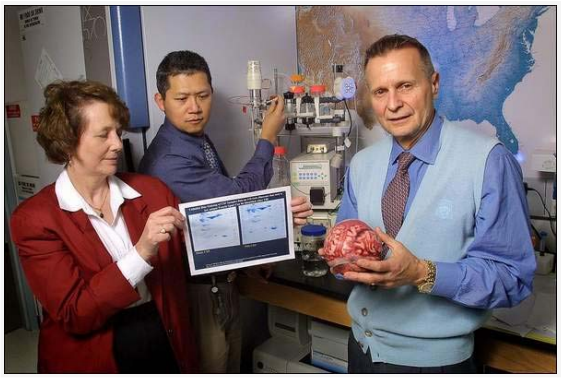

ZOOM — Rob C. Witzel / The Gainesville Sun

Research scientist Ron Hayes, right and colleagues Nancy Denslow and Kevin Wang are founders of a University of Florida biotech spin-off called Daimonion Diagnostics LLC. The company is developng a blood test that can quickly diagnose the severity of a head injury.

Backed by a $1.3 million federal grant, the newest tenant at an Alachua biotechnology facility is aiming to improve the diagnosis of traumatic brain injuries.

Daimonion Diagnostics LLC is developing a portable mechanism that employs a blood test to detect brain injuries, which could occur in military combat, after a car accident or even during a soccer game. The company was formed by Ron Hayes of the University of Florida's McKnight Brain Institute, UF's Kevin Wang, an associate professor of psychiatry and neuroscience, and Nancy Denslow, director of UF's Protein Chemistry Core Facility.

"It's very pioneering research," said Hayes, the company's president. "There's no current tool that employs non-invasive diagnostics for traumatic brain injury. Your other options are CT scans and MRIs, which are expensive and time-consuming and obviously not available 'on site' when an injury occurs."

Daimonion will move in July to the Sid Martin Biotechnology Development Incubator, an Alachua facility run by UF's biotechnology program. The incubator is home to several biotech-based, startup businesses.

Daimonion's device would identify "markers" that cells release into the bloodstream after an injury, and thus determine the severity of the brain trauma. There are similar diagnostic mechanisms in use for injuries to other organs, but none that are available for the brain, Hayes said.

"We think there are tremendous market opportunities here," Hayes said. "The challenge for us right now is to develop the business expertise that will guide our development."

Upon receipt of the federal money, Hayes said the company will hire a bench scientist and a technician to work at the Alachua biotech facility. They'll be joined by Dennis Tomasaka, who already has been hired to head up product development at Daimonion. Tomasaka was last employed with Regeneration Technologies Inc., a human tissue processor in Alachua.

Research for Daimonion's diagnostic device was previously funded with a $2.2 million grant from the Department of Defense. That work was conducted at the McKnight Brain Institute, and the next round of federal money will be used to bring the product to commercial markets.

Hayes said he expects a prototype to be ready for clinical trials in about 18 months.

"It's really a neat form of technology," said Patti Breedlove, incubator manager at the Sid Martin facility. "I would liken it to a heart patient in the emergency room who gets blood work to determine if they've had a heart attack."

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Getting to know 13 intriguing people in Gainesville

ZOOM JOHN MORAN

Ron Hayes in front of a magnified image of an immuno-fluorescent photo micrograph of brain cells.

Highlights</FONT< td>

TITLE: Professor of neuroscience, University of Florida's McKnight Brain Institute and director of the Center for Traumatic Brain Injury Studies

HOMETOWN: Portsmouth, Virginia

FAMILY: Wife, Linda Garcia; two children, Austin, 9, and Adrienne, 6. Also an older son, Larry, 33, and two grandchildren.

EDUCATION: Bachelor of arts, University of Richmond; master of science and Ph.D. in physiological psychology, Virginia Commonwealth University.

MOST PEOPLE DON'T KNOW: "I am a closet philosopher and classicist. It may be unconventional training for a scientist, but it has served me very well."

INSPIRATION: "Great literature. Two authors in particular are Mark Helprin, the novelist and commentator ("A Soldier of the Great War"), and the classicist Marguerite Yourcenar ("Memoirs of Hadrian"), a woman of unparalleled literary genius."

FINAL THOUGHT: "The gift of middle age is that you can see your priorities in life much more clearly."