

Research identifies new experimental drug for stroke

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Research led by Nicolas Bazan, MD, PhD, Boyd Professor and Director of the Neuroscience Center of Excellence at LSU Health Sciences Center New Orleans, has found that a synthetic molecule protected the brain in a model of experimental stroke. Dr. Bazan was issued a patent on the molecule called LAU-0901, a low molecular weight drug that crosses the blood-brain barrier. The findings are published in the March 2012 issue of *Translational Stroke Research*.

During an [ischemic stroke](#), the most common kind, the body releases signals that cause neuroinflammation which leads to a buildup of chemicals that harm the brain. Platelet-activating factor (PAF) accumulates, and inhibition of this process plays a critical role in neuronal survival.

"LAU-0901 is able to reduce this incorrect signaling and inhibit the PAF receptor, which reduces multiple neuroinflammatory signals and greatly lessens the severity of damage in experimental stroke," notes Dr. Bazan.

The research team used [magnetic resonance imaging](#) in conjunction with behavior and immunohistopathology to further study this novel therapeutic approach. The researchers report that LAU-0901, given two hours after the onset of experimental stroke, lessened the severity of brain damage, significantly reduced lesions in the brain, and improved coordination and movement. LAU-0901 produced no discernible side effects. These findings suggest LAU-0901 is a promising neuroprotectant that provides the basis for future therapeutics in patients

suffering ischemic stroke.

Stroke is a leading cause of death and disability worldwide. Conventional therapies for ischemic stroke include thrombolytic therapy, prevention of inappropriate coagulation and thrombosis, and surgery to repair vascular abnormalities. Only one FDA-approved therapy exists for treatment of [acute ischemic stroke](#), the thrombolytic [tissue plasminogen activator](#) (tPA), but only 5% of all ischemic stroke patients are eligible for treatment with tPA.

The research team also included Professor Ludmila Belayev and MD/PhD student Tiffany Niemoller Eady at LSU Health Sciences Center New Orleans, as well as Dr. Julio Alvarez Builla and other scientists from the University of Alcalá, Spain, and Dr. Andre Obenaus at the University of Loma Linda.

Provided by Louisiana State University

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