

EMBARGOED for release until 1:00 p.m. Eastern time (U.S.) on Wednesday, March 9, 2011

For more information, please contact: Ellen R. Weiss, eweiss@biophysics.org 240-290-5606

Philip Schewe, pschewe@aip.org 301-209-3092

WASHINGTON, D.C. (March 9, 2011) -- Spider venom toxins are useful tools for exploring how ion channels operate in the body. These channels control the flow of ions across cell membranes, and are key components in a wide variety of biological processes and human diseases.

A newly identified toxin from the American Funnel Web spider acts on T-type and N-type calcium channels, researchers from the University of California at Riverside have discovered. The toxin offers a new target for studying T-type channels, which play a role in congestive heart failure, hypertension, epilepsy and pain.

"The blocking mechanism of the toxin is different from classical pore blocker toxins and voltage modifier toxins," says lead researcher Xiao Zhang, a postdoc at the Del Webb Center for Neuroscience in La Jolla, Calif. "It indicates a new toxin blocking mechanism on voltage-gated ion channels."

Zhang purified the toxin and created a recombinant version as part of his doctoral research at the University of California, Riverside. "If we can develop a calcium-channel blocker based on this toxin, we could have a new way to identify how these channels work and develop drugs for treating pain and disease," says Zhang.

The presentation, "A Spider Toxin and its Recombinant Isoform Block T-type and N-type Calcium Channels with High Affinity" by Xiao Zhang, Li Dai, and Michael E. Adams is at 1:00 p.m. on Wednesday, March 9, 2011 in the Baltimore Convention Center, Room 307. ABSTRACT: http://tinyurl.com/4nhp7m6

This research was funded by The University of California Institute for Mexico and the United States and the Agricultural Experiment Station.

## \*

## MORE MEETING INFORMATION

Each year, the Biophysical Society Annual Meeting brings together more than 6,000 scientists and hosts more than 4,000 poster presentations, 200 exhibits, and more than 20 symposia. The largest meeting of its type in the world, the Biophysical Society Annual Meeting retains its small-meeting flavor through its subgroup meetings, platform sessions, social activities, and committee programs.

QUICK LINKS

Meeting Home Page: http://www.biophysics.org/2011meeting General Meeting Information: http://www.biophysics.org/GeneralInfo/Overview/tabid/2062/Default.aspx Search abstracts: http://www.abstractsonline.com/plan/start.aspx?mkey={FEA830A5-24AD-47F3-8E61-FCA29F5FEF34}

## PRESS REGISTRATION

The Biophysical Society invites credentialed journalists, freelance reporters working on assignment, and public information officers to attend its Annual Meeting for free. For more information on registering as a member of the press, please contact Ellen Weiss at eweiss@biophysics.org or 240-290-5606. Also see:

http://www.biophysics.org/Registration/Press/tabid/2148/Default.aspx

## ABOUT THE BIOPHYSICALSOCIETY

The Biophysical Society, founded in 1956, is a professional, scientific society established to encourage development and dissemination of knowledge in biophysics. The society promotes growth in this expanding field through its annual meeting, monthly journal, and committee and outreach activities. Its over 9,000 members are located throughout the U.S. and the world, where they teach and conduct research in colleges, universities, laboratories, government agencies, and industry. For more information on the society or the 2011 Annual Meeting, visit www.biophysics.org

####