

# Biophysical Society 60th Meeting, Feb. 27 - March 2, 2016, Los Angeles

**Gene Identified that Helps Wound Healing**

***New research from Ohio State University on gene that regulates healing and may control scarring to be presented at the annual meeting of the Biophysical Society this week in Los Angeles.***

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EMBARGOED for release until 1:30 p.m. Eastern Time on Wednesday, March 2, 2016

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For More Information:

AIP Media Line

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301-209-3090

WASHINGTON, D.C., Wednesday, March 2, 2016 -- Researchers at Ohio State University have pinpointed a human gene product that helps to regulate wound healing and may control scarring in people recovering from severe injuries and damage to certain internal organs.

The protein, MG53, travels throughout the bloodstream and helps the body fix injuries to the skin, heart, lungs, kidneys and other organs without causing scars. It's a discovery that could help heal open wounds, decrease recovery time after surgery and reduce the spread of infections.

"A massive scar on your skin may look bad, but imagine you have a heart attack and get a scar on your heart—that could be lethal," says Jianjie Ma, a physiologist at Ohio State and co-author of the presentation.

All animals carry this gene, he said, and it's almost identical no matter which species. MG53 fixes the cell and tissue damage that occurs during everyday living. Even simple actions, like walking or typing, will cause injuries to the body. Usually this isn't a problem because MG53 can make repairs before there's any serious harm.

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Ma and his team genetically engineered mice without the gene that makes MG53 to see what would happen without its healing capabilities. The experiments showed that the mice lacking MG53 had difficulty recovering from injury, because of their compromised repair capacity; their heart would not function well under stress conditions.

MG53 works in tandem with another protein called TGF Beta, a type of "cytokine" protein that also heals wounds, but the healing process happens so quickly that it causes scars. If you have more TGF Beta in your bloodstream than MG53, you scar easily.

Ma's goal is to develop a therapy that will inhibit TGF Beta and promote MG53. Medical professionals can use the therapy during procedures to promote quick, scarless healing. His next step is to identify a small compound that can do this and eventually test whether it has the desired effect in human trials.

Presentation #2907, "MG53 promotes wound healing and reduces scar formation by facilitating cell membrane repair and controlling myofibroblast differentiation," is authored by Haichang Li, Pu Duann, Pei-Hui Lin, Li Zhao, Zhaobo Fan, Tao Tan, Xinyu Zhou, Mingzhai Sun, Matthew Sermersheim, Hanley Ma, Steven Steinberg, Hua Zhu, Chunyu Zeng, Jianjun Guan and Jianjie Ma. It will be in a poster session that begins at 10:30 a.m. on Wed., March 2, 2016 in the West Hall of the Los Angeles Convention Center. ABSTRACT: <http://tinyurl.com/z9ouseq>

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MORE MEETING INFORMATION

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ABOUT THE MEETING

Each year, the Biophysical Society Annual Meeting brings together more than 6,500 researchers working in the multidisciplinary fields representing biophysics. With more than 3,600 poster presentations, over 200 exhibits, and more than 20 symposia, the BPS Annual Meeting is the largest meeting of biophysicists in the world. Despite its size, the meeting retains its small-meeting flavor through its subgroup symposia, platform sessions, social activities and committee programs. The 60th Annual Meeting will be held at the Los Angeles Convention Center.

PRESS REGISTRATION

The Biophysical Society invites professional journalists, freelance science writers and public information officers to attend its Annual Meeting free of charge. For press registration, contact Ellen Weiss <EWeiss@biophysics.org> or the media line at the American Institute of Physics at <media@aip.org> or 301-209-3090.

NEWS RELEASES

Embargoed press releases describing in detail some of the breakthroughs to be discussed at the meeting are available on Eurekalert, Newswise and Alpha Galileo or by contacting the media line at the American Institute of Physics at <media@aip.org> or 301-209-3090.

QUICK LINKS

Main Meeting Page: http://tinyurl.com/hewekyj

Symposia: http://tinyurl.com/h7lnk4p

Itinerary planner: http://tinyurl.com/hslnx3p

ABOUT THE SOCIETY

The Biophysical Society, founded in 1958, 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 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 2016 Annual Meeting, visit http://www.biophysics.org

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