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## Award allows UM researcher to study synthetic proteins

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# NEWS RELEASE

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Contact: Tom Rush III, chemistry assistant professor, (406) 243-6026.

# AWARD ALLOWS UM RESEARCHER TO STUDY SYNTHETIC PROTEINS MISSOULA —

Chemistry Assistant Professor Thomas Rush III of The University of Montana has received a \$33,000 award to investigate the development of useful synthetic proteins.

Rush received the Research Innovation Award from Research Corp., a Tucson, Ariz.-based foundation for the advancement of science. The foundation gives monetary awards to proposals that transcend the ordinary and offer promise of significant discoveries.

Proteins are central to biology, Rush said, controlling nearly all chemical reactions in living things. He wants to design synthetic proteins in the laboratory to see if he can get them to behave like natural ones. If he does, this would test how much science knows about these long strings of molecules, which shift into different shapes when they interact with certain chemicals. Proteins control human growth, respiration, immune systems and more.

Researchers have designed synthetic proteins, none of which do anything except change into different shapes. Rush wants to develop useful proteins that change shape in response to interactions with small molecules. This would allow him to test science's basic understanding of protein structure and function.

## Proteins.rl--2

Such designer proteins also could lead to many interesting new chemicals and materials.

Though his research is in its infancy, Rush imagines synthetic proteins that can do almost anything

– act as blood substitutes, fix cancer cells, produce electricity from solar energy or generate motor fuel.

Only 46 Research Innovation Awards were given this year. They often go to researchers with innovative ideas who are just starting their careers. Rush, 30, is a New Jersey native who did post-doctoral work at Princeton University. He joined UM's faculty in 1998.

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CBS Local, state dailies Proteins.rl