

# Potential new heart attack biomarker uncovered

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Though they remain a leading killer, heart attacks can be effectively treated provided they can be rapidly diagnosed following initial onset of symptoms. In a study appearing in this month's *Molecular and Cellular Proteomics*, researchers have identified cardiac myosin-binding protein C (cMyBP-C) as a potential new diagnostic biomarker for heart attacks, one that may be particularly valuable for mild attacks in which traditional diagnostic proteins may not be abundant enough.

Currently, one of the gold-standards for diagnosis of [heart](#) attacks, or acute myocardial infarctions, is scanning for the presence of the proteins troponin I and troponin T, as they are produced specifically in the heart and are almost completely absent in the blood in healthy individuals.

However, even troponins are not ideal markers, since they are released somewhat slowly following a heart attack (peaking around 18 hours post-infarction) and remain in the blood for up to 10 days afterwards, hindering the diagnosis of any secondary heart attacks.

In the quest for better biomarkers, a group of researchers at King's College London performed a proteomic analysis of all the proteins released by mouse hearts following induced heart attacks. They identified 320 proteins not released by normal hearts, including all the currently employed biomarkers.

Only a handful of these proteins were specific to the heart, but among those, one very promising lead was cMyBP-C; within 5 minutes

following a [heart attack](#) it became nearly 20 fold more abundant than before, one of the highest increases of all 320 identified proteins. In fact, cMyBP-C was abundant following even minor heart attacks, suggesting it could be very useful in such instances.

The researchers are now continuing their investigation and examining the time course of cMyBP-C release following heart attacks and its persistence in the blood of [mice](#), to further determine this protein's potential value.

More information: "Identification of Cardiac Myosin-binding [Protein C](#) as a Candidate Biomarker of [Myocardial Infarction](#) by Proteomics Analysis," by Sebastien Jacquet, Xiaoke Yin, Pierre Sicard, James Clark, Gajen S. Kanaganayagam, Manuel Mayr, and Michael S. Marber. Article Link: [www.mcponline.org/cgi/content/abstract/8/12/2687](http://www.mcponline.org/cgi/content/abstract/8/12/2687)

Source: American Society for Biochemistry and Molecular Biology

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