

New clues emerge for understanding morphine addiction

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Scientists are reporting new clues to understanding morphine addiction. Credit: US Drug Enforcement Administration

Scientists are adding additional brush strokes to the revolutionary new image now emerging for star-shaped cells called astrocytes in the brain and spinal cord. Their report, which suggests a key role for astrocytes in morphine's ability to relieve pain and cause addiction, appears online in *ACS' Journal of Proteome Research*.

In the study, Piotr Suder and colleagues point out that nearly everyone viewed astrocytes — the most abundant cells in the [brain](#) — as supporting actors in the drama of brain activity. Scientists thought astrocytes simply propped up neurons, [nerve cells](#) that transmit signals, and kept them in proper position. Studies during the last several years, however, suggest that these cells are just as their Greek name suggests

— stars.

The scientists added morphine to a group of astrocytes in cell culture for several days. They found that the morphine-exposed cells showed increased levels of nine proteins that appear to play a role in maintaining the normal function of nerve [cells](#). "These proteins, after additional detailed study of their function, may serve as a potential marker of drug addiction, or may be the targets for potential therapy," the article notes.

More information: "The Proteomic Analysis of Primary Cortical Astrocyte Cell Culture after Morphine Administration", [Journal of Proteome Research](#), pubs.acs.org/stoken/presspac/p...
[10.1021/pr900443r](https://doi.org/10.1021/pr900443r)

Source: American Chemical Society ([news](#) : [web](#))

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