

The search for obesity drugs targets hunger's complex chemistry

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Discoveries of hormones related to weight and appetite in the '90s helped spur a search for obesity treatments targeting those hormones—with disappointing results. Now scientists are taking a new tack that could finally yield promising treatments, according to a story in *Chemical & Engineering News* (C&EN) that was produced in collaboration with the American Chemical Society's open-access journal *ACS Central Science*.

Jyoti Madhusoodanan, a contributing editor at C&EN, reports that early attempts to therapeutically target leptin and ghrelin—which suppress and stimulate appetite, respectively—were mostly ineffective. But the hormones' discoveries paved the way to a deeper understanding of the chemistry of hunger. Scientists have found that in addition to leptin and ghrelin, many other factors contribute to eating habits. Protein sensors in the stomach, for example, sense stretch, pressure and volume changes when a person eats, and create a sense of fullness. Neurotransmitters in the brain, including dopamine, serotonin and norepinephrine, also tweak people's feelings of hunger and satiety.

Recognizing the role of the brain in weight gain, researchers developed newer therapies, approved in 2013 and 2014, to target individual neuronal signaling molecules. But to further improve obesity treatments, drugs will most likely need a more complex approach, given the multiple factors involved in [hunger](#). So researchers are now trying combination therapies to better regulate various parts of the body's [appetite control](#) system. A few more years of research could ultimately bear out this

strategy—or help redirect the field yet again.

More information: "Hungering for obesity treatments,"
cen.acs.org/articles/95/i13/Hungering-for-obesity-treatments.html

Provided by American Chemical Society

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