

Inhibiting obesity by increasing an intestinal enzyme

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NAPEs, a family of lipid molecules, are produced in the intestinal tract after food intake and exert leptin-like effects: they reduce food intake and weight gain.

Given their potential importance in regulating satiety and inhibiting obesity, Sean Davies, Ph.D., and colleagues are exploring NAPE action.

NAPEs are converted to NAEs by the NAPE-PLD enzyme, but it is not clear whether this conversion is required for NAPE activity. The researchers delivered NAPEs and NAEs intestinally to mice using gut bacteria they developed that synthesize the compounds.

They found that in mice missing the NAPE-PLD enzyme, increasing intestinal levels of NAPEs failed to reduce food intake and [weight gain](#) or alter gene expression, while increasing intestinal levels of NAEs still induced all of these effects.

The findings, reported in the *Journal of Lipid Research*, show that NAPE-PLD activity is required for the leptin-like effects of NAPEs. Reduced NAPE-PLD activity – reported to occur in obese subjects – may directly contribute to excess [food intake](#) and obesity.

More information: Zhongyi Chen et al. Leptogenic effects of NAPE require activity of NAPE-hydrolyzing phospholipase D, *Journal of Lipid Research* (2017). [DOI: 10.1194/jlr.M076513](https://doi.org/10.1194/jlr.M076513)

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