Researchers enlist a new recruit in battle of the bulge

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In the battle against obesity, Yale University researchers may have discovered a new weapon — a naturally occurring molecule secreted by the gut that makes rats and mice less hungry after fatty meals. The findings are published in the Nov. 26 issue of the journal *Cell*.

The report suggests the molecule may help regulate how much animals and people eat, according to the team headed by Gerald I. Shulman, Yale professor of medicine and cellular & molecular physiology and a Howard Hughes Medical Institute investigator.

Shulman's team studied a family of lipids called N-acylphosphatidylethanolamines, or NAPEs, which are synthesized and secreted into the blood by the small intestine after fatty foods are eaten. The team found that mice and rats injected regularly with NAPEs ate less food and lost weight. In addition, treatment with NAPEs appeared to reduce the activity of "hunger" neurons in the brain while stimulating activity in neurons that are believed to play a role in reducing appetite.

In the last two decades, scientists have made great inroads toward understanding how the body communicates with the brain to control food intake. So far, hormones such as leptin that act as regulators of this complex system have proved disappointing when tested as potential weight-loss treatments in humans.

The researchers are now planning to investigate how the findings in the Cell paper apply to humans. They will first study non-human primates to

determine if NAPE concentrations increase in a similar fashion after fat ingestion. Then, says Shulman, "If chronic NAPE treatment is well tolerated and can cause weight loss by a reduction of food intake, we would have strong impetus to move forward with human NAPE trials."

Source: Yale University