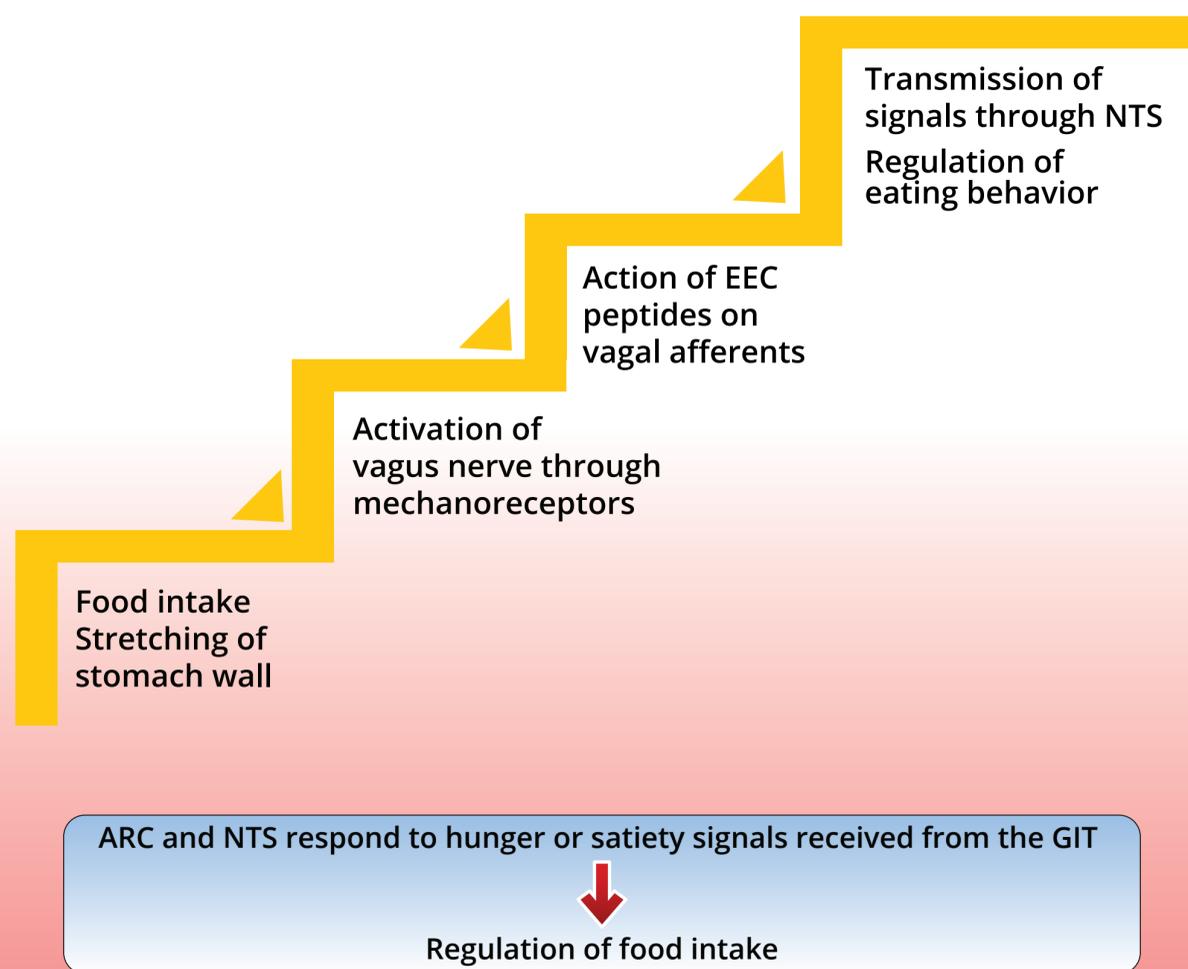
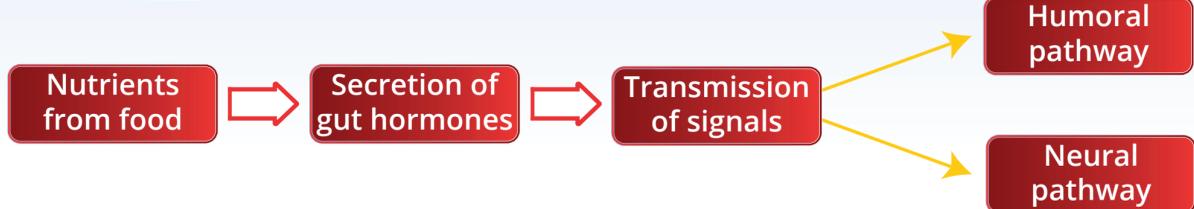
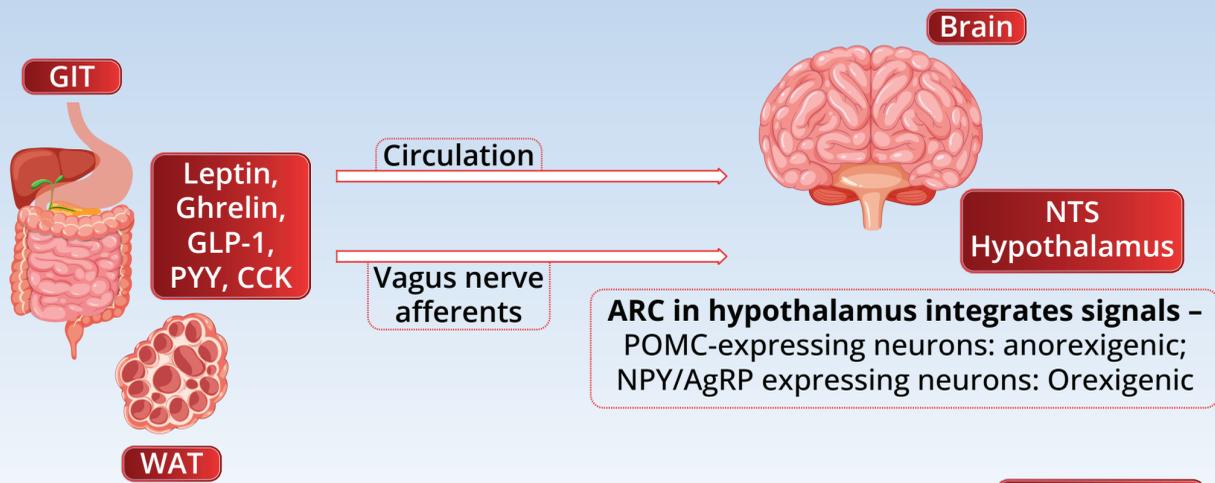




ObesiTalks

Understand. Assess. Act.

THE GUT–BRAIN AXIS IN APPETITE REGULATION



CCK

- > Secreted by intestinal mucosa
- > Transmits satiety signals to ARC in hypothalamus

PYY

- > Anorexigenic peptide secreted following food intake from small intestinal L cells
- > Acts on the Y2 receptor; inhibits NPY/AgRP and activates anorexigenic POMC neurons

GLP-1

- > Secreted by L cells in distal small intestine and proximal part of colon
- > GLP-1 receptor-expressing neurons in brain respond to signals from GIT as well as preproglucagon neurons in NTS, thus inducing satiety
- > Increased levels after food intake; reduced levels after fasting

Ghrelin

- > Orexigenic hormone secreted by GIT mucosa
- > Increased during fasting
- > Activates orexigenic NPY/AgRP neurons; inhibits POMC/CART neurons

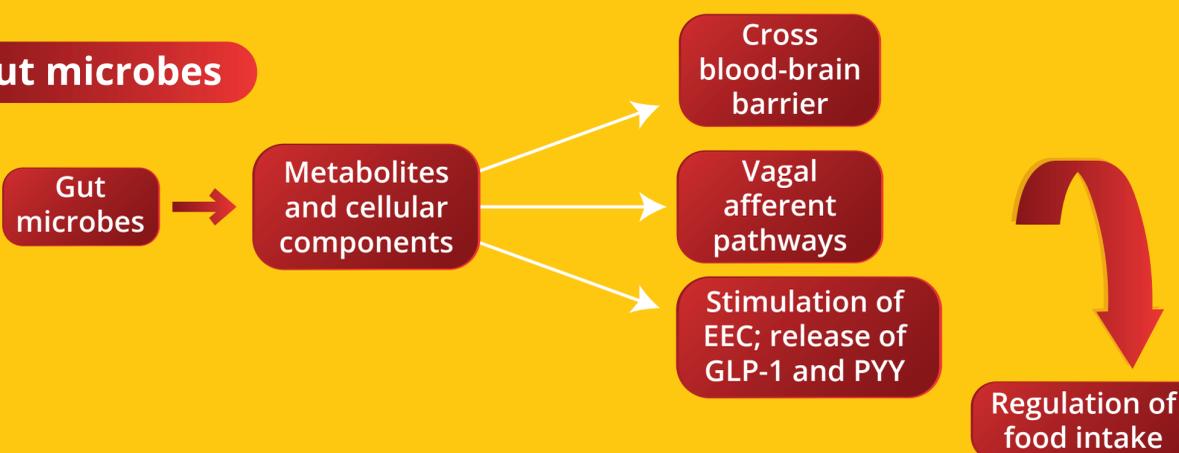
Leptin

- > Anorexic peptide secreted by WAT
- > Depolarizes POMC neurons; hyperpolarizes NPY/AgRP neurons
- > Decreases food intake; enhances energy expenditure

Reward pathway



Gut microbes



Abbreviations: GIT: Gastrointestinal tract; GLP-1: Glucagon-like peptide-1; PYY: Peptide YY; CCK: Cholecystokinin; WAT: White adipose tissue; NTS: Nucleus tractus solitarii; ARC: Arcuate nucleus; POMC: Pro-opiomelanocortin; NPY: Neuropeptide Y; AgRP: Agouti-related peptide; EEC: Enteroendocrine cells; CART: Cocaine- and amphetamine-regulated transcript.