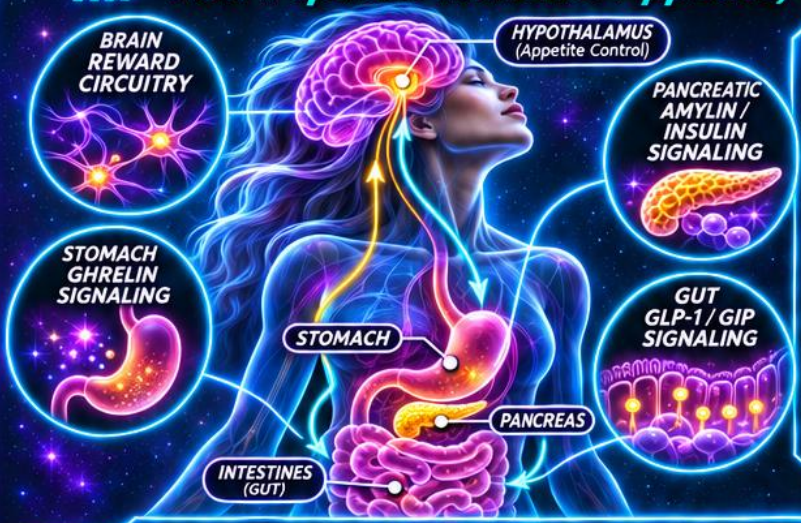
Peptide Perspectives™

THE SCIENCE OF HUNGER

How Peptides Influence Appetite, Cravings & Fullness



HUNGER IS BIOLOGY, NOT JUST WILLPOWER

- Hunger, cravings, and fullness are related but distinct experiences.
- Satiation helps end a meal; satiety is fullness that lasts afterward.
- Cravings involve reward, habit, emotion, and food cues, not just physical hunger.
- After weight loss, compensatory biology can increase hunger and make maintenance harder.

THE GUT & BRAIN ARE IN CONSTANT CONVERSATION

GLP-1

- Post-meal signal influencing appetite, gastric emptying, insulin, and fullness.

GIP

- Second incretin signal; works with GLP-1 in metabolism and appetite research.

AMYLIN

- Pancreatic fullness signal; slows gastric emptying and supports satiety.

GHRELIN & LEPTIN

- Ghrelin: increases hunger, sspecially before meals.
- Leptin: long-term signal of energy stores that helps regulate appetite.

FOOD REWARD SYSTEM

- Food cues, pleasure, memory, and learned eating behavior that can drive cravings and intake.

8 COMPOUNDS & THEIR EVIDENCE

SEMAGLUTIDE

- **Mechanism:** GLP-1 receptor agonist.
- **Evidence/Status:** FDA-approved products for defined conditions (e.g., type 2 diabetes, obesity).
- **Effect:** Reduces appetite and food intake.
- ⚠ **Limitation:** GI risks (e.g., nausea, vomiting) and variable subjective response.

TIRZEPATIDE

- **Mechanism:** GIP + GLP-1 agonist.
- **Evidence/Status:** FDA-approved products for defined conditions (e.g., type 2 diabetes, obesity).
- **Effect:** Affects hunger, cravings, and food cues (e.g., food interest and responsiveness).
- ⚠ **Limitation:** Mechanisms not fully separable (appetite, food reward, metabolism, etc.).

CAGRILINTIDE

- **Mechanism:** Long-acting amylin analogue.
- **Evidence/Status:** Phase 3 human trials; investigational in U.S.
- **Effect:** Reduces appetite and slows gastric emptying, supporting fullness.
- ⚠ **Limitation:** GI side effects (e.g., nausea) and trial-product context (e.g., dose and combination) matter.

RETATRUTIDE

- **Mechanism:** GLP-1 + GIP + glucagon agonist.
- **Evidence/Status:** Phase 3 obesity data; not FDA-approved as of Nov 2026.
- **Effect:** Reduces appetite and food intake; wide metabolic effects (e.g., weight, fat).
- ⚠ **Limitation:** Appetite effects versus broader metabolic effects are not fully separable.

ELORALINTIDE

- **Mechanism:** Selective amylin receptor agonist.
- **Evidence/Status:** Phase 2 human trial; investigational.
- **Effect:** Reduces appetite and food intake, with amylin-like effects.
- ⚠ **Limitation:** Long-term outcomes (e.g., durability, safety, real-world use) not established.

PRAMLINTIDE

- **Mechanism:** Amylin analogue.
- **Evidence/Status:** FDA-approved for certain diabetes patients using mealtime insulin (e.g., type 1 or type 2).
- **Effect:** Slows gastric emptying, reduces post-meal rise in glucose, and can reduce appetite.
- ⚠ **Limitation:** Narrow role (adjunct to mealtime insulin); hypoglycemia risk and boxed warning context matter.

MAZDUTIDE

- **Mechanism:** GLP-1 + glucagon agonist.
- **Evidence/Status:** Approved in China in 2025; not FDA-approved in U.S.
- **Effect:** Reduces appetite and food intake, with additional metabolic effects (e.g., weight, fat).
- ⚠ **Limitation:** Distinct appetite contribution of glucagon (versus metabolism and energy use) is uncertain.

SETMELANOTIDE

- **Mechanism:** MC4R agonist (melanocortin-4 receptor).
- **Evidence/Status:** FDA-approved for specific rare obesity disorders (e.g., POMC, PCSK1, LEPR deficiencies) and hypothalamic obesity.
- **Effect:** Can reduce hunger and increase satiety in these conditions.
- ⚠ **Limitation:** Not for ordinary polygenic obesity.

KEY DISTINCTION: APPETITE IS NOT THE SAME AS WEIGHT

- Less hunger does not explain all weight change.
- Meal size, food choice, gastric emptying, energy expenditure, adherence, and environment all matter.
- Reduced cravings, reduced food intake, and weight loss are different outcomes.

WHAT GOOD STUDIES SHOULD MEASURE

- Hunger, fullness, and craving scores
- Laboratory meal intake
- Gastric emptying and glycemic responses
- Weight and waist change
- Quality of life and food-related behavior
- Adverse effects and long-term durability.

WHERE SCIENCE IS HEADING

- Better matching of medicine to biology
- Amylin plus incretin combinations
- More precise rare-hunger treatments
- Separating appetite effects from overall metabolic effects
- Preserving nutrition, enjoyment, and quality of life.

⚠ **REDUCED CRAVINGS, SMALLER MEALS, SLOWER STOMACH EMPTYING, AND WEIGHT LOSS ARE DIFFERENT OUTCOMES. INVESTIGATIONAL COMPOUNDS REMAIN PRODUCT- AND TRIAL-SPECIFIC.**

Educational research overview | November 2026 | Not medical advice