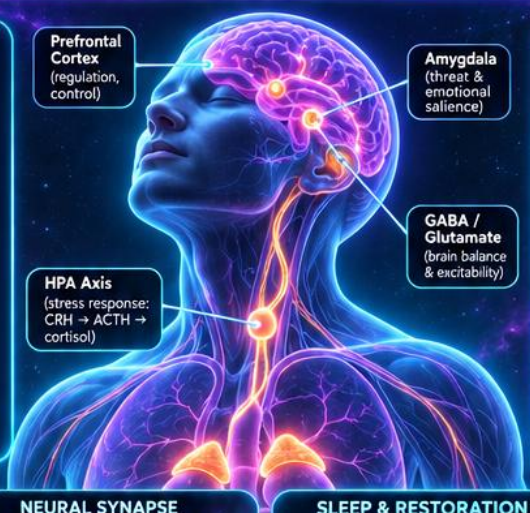
Peptide Perspectives

CALMING THE BRAIN

Emerging Peptide Research for Stress, Anxiety & Emotional Balance

EMOTIONAL RESILIENCE IS NOT THE ABSENCE OF STRESS

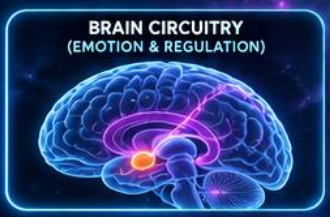
- **Stress can be adaptive** — it can help us respond, learn, and perform under challenge.
- **Chronic dysregulation** can impair sleep, concentration, relationships, and daily function.
- **Anxiety is not just one chemical** — it reflects multiple, interacting brain and body systems.
- **Peptides are being studied because they help cells communicate**, which can influence these systems.



FOUR BIOLOGICAL PATHWAYS

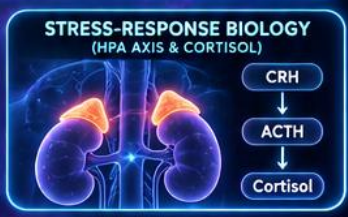
- **HPA axis / cortisol regulation** — controls the body's core stress response (CRH → ACTH → cortisol).
- **GABA & glutamate balance** — helps regulate neural excitability, calm, and emotional reactivity.
- **Amygdala & prefrontal networks** — shapes threat detection, emotional response, and top-down regulation.
- **Sleep, social context & neuroimmune signals** — restorative sleep, social connection, and immune–brain signaling all influence stress and anxiety levels.

⚠ *Lowering cortisol alone is not the same as treating anxiety.*









8 COMPOUNDS & THEIR EVIDENCE

SELANK

- **Mechanism:** GABA-associated signaling (modulates anxiolytic pathways).
- **Why promising:** Most direct human anxiety research in this group; small human study in anxiety.
- **Evidence level:** Small human study(ies).
- **Key limitation:** Limited independent placebo-controlled replication.

SMALL HUMAN STUDIES | INVESTIGATIONAL

SEMAX

- **Mechanism:** Neurotrophic effects (e.g., ↑ BDNF/TrkB) and adaptation-to-stress pathways.
- **Why promising:** Small human imaging studies and animal studies suggest effects on brain function and stress-adaptation.
- **Evidence level:** Small human studies (imaging) and preclinical data.
- **Key limitation:** Not proven as a clinical anxiety treatment.

SMALL HUMAN STUDIES | INVESTIGATIONAL

OXYTOCIN

- **Mechanism:** Social-emotional and stress-context signaling (e.g., trust, bonding, and threat processing).
- **Why promising:** Many human trials, but a 2026 meta-analysis found no statistically significant overall psychiatric symptom benefit.
- **Evidence level:** Mixed human evidence (many trials, overall null meta-analysis).
- **Key limitation:** No anxiety approval; not a proven clinical treatment for anxiety.

MIXED HUMAN EVIDENCE | INVESTIGATIONAL

DSIP

- **Mechanism:** Sleep–wake regulation and recovery-related signaling.
- **Why promising:** Mixed small, older human sleep trials suggesting effects on sleep and recovery.
- **Evidence level:** Mixed human evidence (older, small studies).
- **Key limitation:** Not proven anxiolytic; not FDA-approved.

MIXED HUMAN EVIDENCE | INVESTIGATIONAL

NEUROPEPTIDE Y (NPY)

- **Mechanism:** Resilience and trauma-related stress signaling (modulates stress responsivity and emotional reactivity).
- **Why promising:** Very small human dose-ranging PTSD study plus preclinical data suggesting stress- and anxiety-related benefits.
- **Evidence level:** Small human studies (very limited) and preclinical data.
- **Key limitation:** Promising but investigational and not an approved therapy.

VERY SMALL HUMAN STUDY | INVESTIGATIONAL

PE-22-28

- **Mechanism:** TREK-1 potassium-channel research (may reduce neural excitability and stress reactivity).
- **Why promising:** Laboratory and mouse data suggest anxiolytic-like and stress-modulating effects.
- **Evidence level:** Preclinical (laboratory and mouse studies only).
- **Key limitation:** No human therapeutic evidence.

PRECLINICAL | INVESTIGATIONAL

N-ACETYL SELANK AMIDATE

- **Mechanism:** Modified Selank analogue marketed for greater stability and longer duration.
- **Why promising:** Designed to retain Selank's proposed effects with improved pharmacokinetics.
- **Evidence level:** No reliable compound-specific controlled human trial.
- **Key limitation:** Parent Selank results do not transfer automatically to this analogue.

NO HUMAN TRIALS | INVESTIGATIONAL

PINEALON

- **Mechanism:** Bioregulator with indirect neural-stress and oxidative-injury research (e.g., cellular protection and stress resilience).
- **Why promising:** Preclinical studies suggest potential neuroprotective and stress-related effects.
- **Evidence level:** Largely preclinical (cellular and animal studies).
- **Key limitation:** No demonstrated human anxiety or mood benefit.

PRECLINICAL | INVESTIGATIONAL

WHAT GOOD CLINICAL STUDIES SHOULD MEASURE

- Validated anxiety symptom scales
- Sleep quality
- Concentration / day-to-day function
- Quality of life
- Side effects & tolerability

WHERE SCIENCE IS HEADING

- Better-defined targets instead of just "more calm."
- Understanding **resilience as a biological process** (e.g., stress adaptation, recovery, and flexibility).
- **Measure real-world function**, not only brain scans or biomarkers (e.g., sleep, work/school performance, relationships, daily function).
- **Develop safer and more selective compounds** (more precise effects, fewer off-target risks).

⚠ ***BRAIN SCANS, GENE SIGNALS, AND MOUSE BEHAVIOR ARE NOT THE SAME AS PROVEN HUMAN ANXIETY RELIEF. MOST FEATURED PEPTIDES REMAIN INVESTIGATIONAL.***

Educational research overview | November 2026 | Not medical advice.