

Neuropeptides: A breakthrough in Neurological disorders

Neuropeptides are small endogenous protein messengers synthesized and secreted by neurons through the regulated secretory route. Which regulates various biological functions including Homeostasis and cellular signaling mechanism. The dysfunctionality at genetic routes of neuropeptides can cause neurological disorders like Alzheimer's, Parkinson's and neurobehavioral disorders like Obesity. One of the prominent Neuropeptide is somatostatin hormone acting as a key worker for cognitive functioning and modulating cortical circuits. It is considered as the hall mark of various neurological disorders like depression and Alzheimer's.

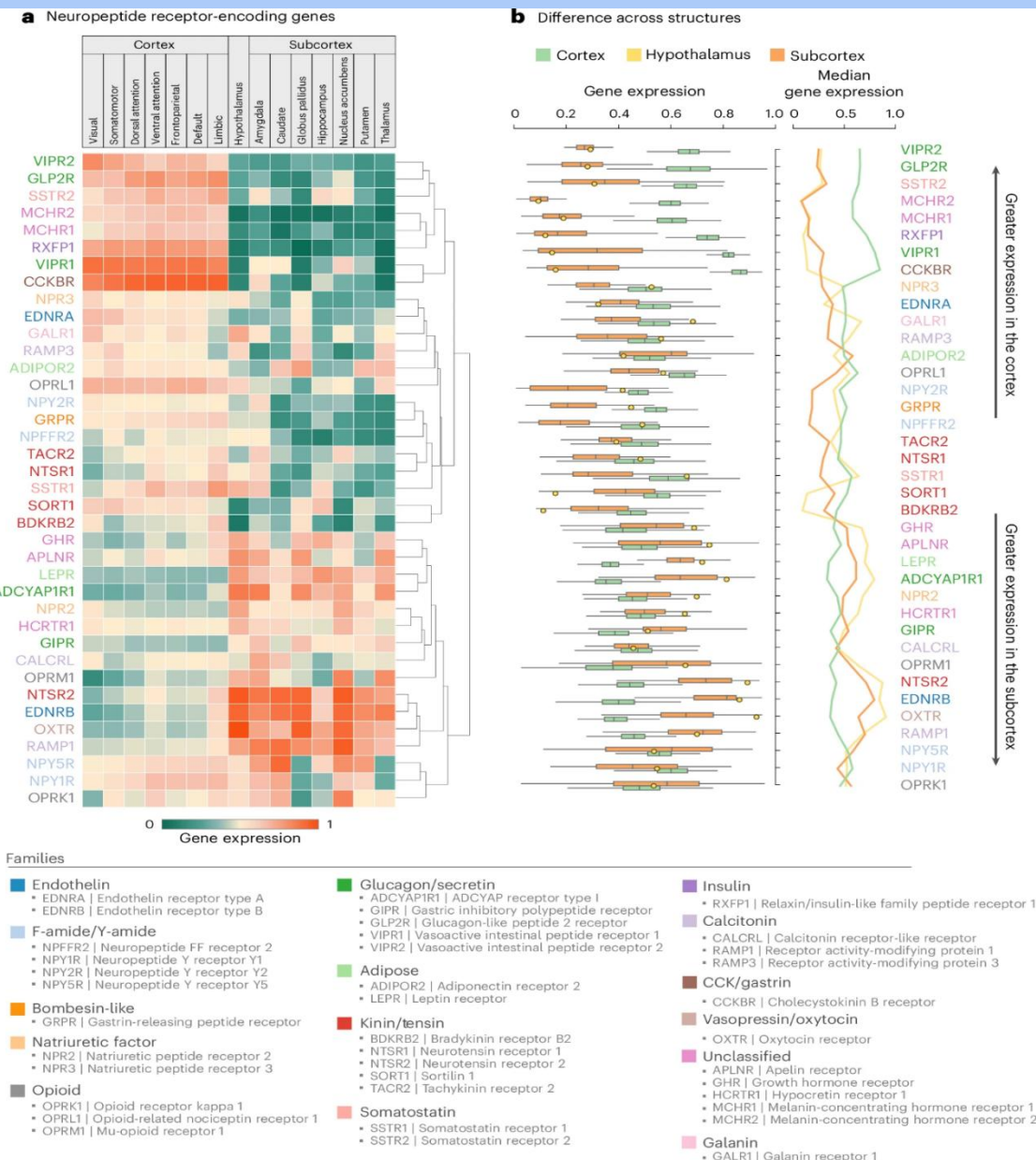


Figure 1. Gene mapping of human neuro peptides (Organization of neuropeptide systems in the human brain)³

Scientific Connection:

Scientists have been using graphical and schematic representation of the outcomes from genetic mapping of Neuropeptides to illustrate the brain activity in Balanced functioning of Nuropeptides and how the lack of specific neuropeptides can alter the normal activity of the brain.

Why does it matter?

One of the complex streams of human physiology is the working of nervous system. The cure for disorders related to nervous systems is not profound enough to have control over them. So, gene mapping of the Neuropeptides will help scientists to understand the better functioning of these hormones and to produce more effective medications when dealing with disorders like Alzheimer's, Depression, Parkinson's, and other neurobehavioral disorders like Obesity.

Classroom use:

This poster can be used by professors to teach students about the importance of peptides as a biomolecule and its biochemistry; Professors can also help to signify the importance of gene making and its outcome in genetic and medical fields. It can also be used to highlight the complexity of nervous systems.

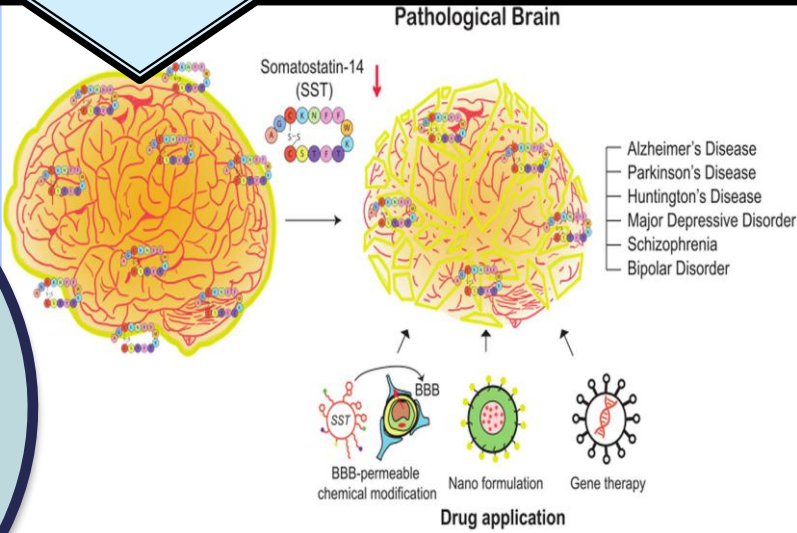


Figure 2. illustration of Healthy brain and Neuropeptide (SST) lacking brain. (The role of neuropeptide somatostatin in the brain and its application in treating neurological disorders)¹

1. Song et al. (2021). The role of neuropeptide somatostatin in the brain and its application in treating neurological disorders. *Experimental & Molecular Medicine*, (53).328–338 <https://doi.org/10.1038/s12276-021-00580-4>
2. Yeo, X.Y et al. (2022). Potentials of Neuropeptides as Therapeutic Agents for Neurological Diseases. *Biomedicines*, (10). 343. <https://doi.org/10.3390/biomedicines10020343>.
3. Eric G. Ceballos et al. (2026). Organization of neuropeptide systems in the human brain. *Nature Neuroscience*, (29). 1212-1224. <https://doi.org/10.1038/s41593-026-02236-w>