

Tryptophan → 5-HTP → Serotonin

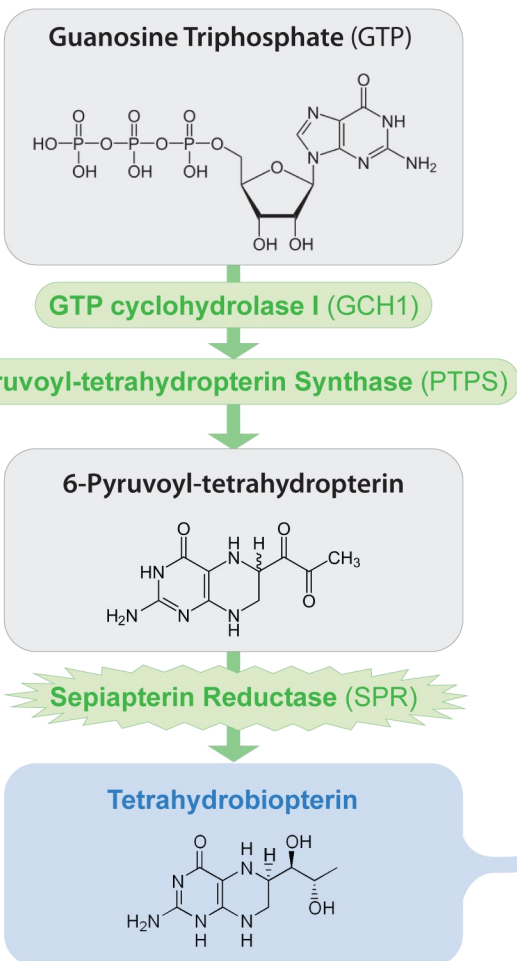
Role of Sepiapterin Reductase in Neurotransmitter Production

Sepiapterin Reductase is the final enzyme in the biosynthetic pathway for **tetrahydrobiopterin** – a cofactor used by other enzymes in the synthesis of the neurotransmitters **dopamine** and **serotonin**.

In the case of **serotonin** biosynthesis, the enzyme **Tryptophan Hydroxylase** uses **tetrahydrobiopterin** to convert tryptophan to 5-hydroxytryptophan (5-HTP). In a second reaction, the enzyme **Aromatic L-amino Acid Decarboxylase** converts 5-HTP into **serotonin**, the active neurotransmitter.

● Enzymes ● Neurotransmitters ● Cofactors

Tetrahydrobiopterin Pathway



Serotonin Pathway

