

Acetylcholinesterase (AChE)

House: Hydrolase

Seeker: Walo Leuzinger, 1968

Spells: Breaks down a chemical messenger called acetylcholine into smaller substances, helping nerve signals switch off at the right time like casting Finite Incantatem.

Chamber: Where nerves meet muscles

Horcruxes: If acetylcholine builds up, muscles can become weak and tired because the nerve signal cannot switch off properly.



Tyrosine Hydroxylase (TH)

House: Oxidoreductases

Seeker: National Institutes of Health, 1964

Spells: Starts the process of making L-DOPA, which the body uses to make important chemicals such as dopamine, noradrenaline, and adrenaline.

Chamber: Brain, adrenal glands, and nerves

Horcruxes: If this enzyme is not working properly, the body may not make enough of these chemicals, which can affect movement and the nervous system.



Catechol-O-methyltransferase (COMT)

House: Transferases

Seeker: Julius Axelrod, US National Institutes of Health, 1957

Spells: Helps break down and control chemicals such as dopamine, noradrenaline, and adrenaline by adding a tiny chemical group to them.

Chamber: Brain, liver, kidneys, and blood

Horcruxes: Changes in COMT activity can affect how these brain chemicals are controlled and may be linked to differences in mood, stress response, and metabolism.



Myosin ATPase

House: Hydrolase

Seeker: Albert Szent-Györgyi, 1943

Spells: Breaks down ATP, the cell's energy source, to give muscles the energy they need to move; almost like casting Locomotor!

Chamber: Smooth and striated muscles

Horcruxes: Without enough energy from ATP, muscles cannot contract properly.



Monoamine oxidase (MAO)

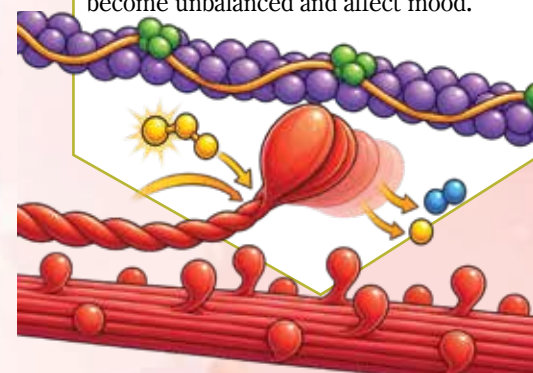
House: Oxidoreductases

Seeker: Mary Bernheim, 1928

Spells: Breaks down important brain chemicals such as serotonin, dopamine, and adrenaline, helping keep their levels balanced rather like Professor Lupin teaching students to control a boggart.

Chamber: Brain, liver, and placenta

Horcruxes: If MAO does not work properly, the levels of these chemicals can become unbalanced and affect mood.



Beta-secretase 1 (BACE1)

House: Hydrolase

Seeker: Identified by several research teams through expression cloning

Spells: Cuts a larger protein called amyloid precursor protein into smaller pieces. One of these is amyloid-beta, which can form harmful plaques in the brain in Alzheimer's disease.

Chamber: Brain cells, liver cells, and other tissues

Horcruxes: Too much BACE1 can produce more amyloid-beta and increase plaques associated with Alzheimer's.



ENZYMES rule everything

The closest thing to magic we have in the Muggle world are enzymes. Hidden away like charms, they govern control, coordination, and balance in our bodies - like spells in the wizarding world. Join **Aditya Gururaj**, AGS Noida, Alumnus, in this Potions meets Defence Against the Dark Arts class to learn about these molecular wizards.