

What are Synuclein alpha (SNCA) proteins?

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About Synuclein alpha (SNCA) proteins:

- It is a mysterious protein which is present in **healthy cells**.
- It is notorious for its involvement in **age-related neurodegenerative diseases**.
- **Features of SNCA**
 - It is **abundant in neurons**, especially in dopaminergic neurons. It is found near the nuclei of these cells and at the junctions between two neurons.
 - It's capable of misfolding as well as forming filamentous structures.
 - So unlike most other proteins, which take up predictable three-dimensional structures, SNCA **can fold in multiple ways**. Misfolded proteins don't function correctly.
 - SNCA is **present in 2 ways** as aggregates in cells: one that interferes with the structural **integrity of cells' nuclei** and another that allows the cell to degrade misfolded proteins.
 - In these two the former are **related to diseased states** while the latter is important for **healthy cells**.
 - Over time, these two SNCA populations in the cells: one was around the nuclei, shapes like filaments tens of micrometres long, much like Lewy bodies.

- The other population was also around the nuclei but as much smaller clumps called aggresomes. Such aggresomes are formed when cells localise misfolded proteins into a small bunch (like collecting the trash in a corner) for further processing.
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Q1: What is Parkinson?

Parkinson is a progressive neurological disorder that affects the nervous system and the parts of the body controlled by the nerves. It is a condition in which a patient holds limited or no control over his movements and body balance.

Source: [Balancing two forms of SNCA protein could help manage Parkinson's, study finds](#)

Source: <https://vajiramandravi.com/current-affairs/synuclein-alpha-snca-proteins/>

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