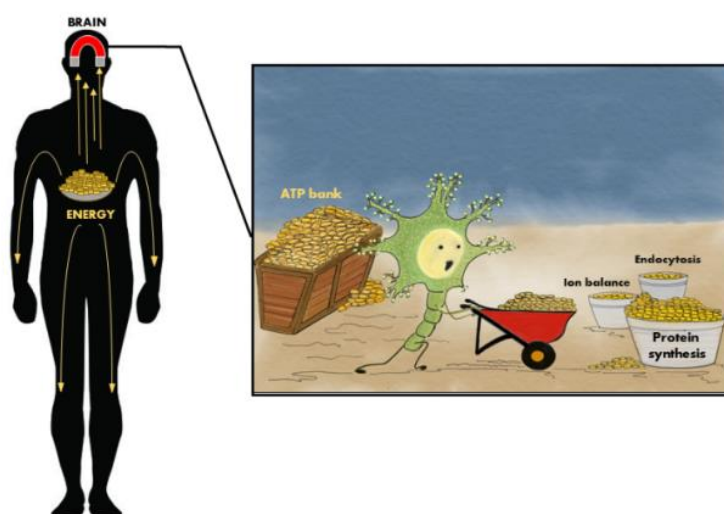


## Energy budgeting in the brain: Protein synthesis takes the lion's share

Dr. Ravi Muddashetty and his group in the DBT-funded, multi-institutional, Centre for Neurodevelopmental Synaptopathies (CNS) at Institute for Stem Cell Science & Regenerative Medicine (inStem), Bengaluru has been working to explore the exact nature of the cellular and molecular processes underpinning the metabolic energy supply to the brain.



The investigation has shown that the brain activity requires synthesis of new proteins, which utilizes a significant proportion of the cellular energy in the form of ATP (energy currency of cell). Surprisingly, more than its electrical activity, the brain needs energy for protein synthesis. Further, the work from this group has also identified signalling systems in the brain that ensure that the task of making protein is maintained/ regulated. Thus, identifying a crucial link between activity-induced protein synthesis and energy metabolism in neurons is an important outcome of this work. The findings have important implications in understanding disorders of neuronal development and neurodegeneration.

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