

The Somnostat: Mechanisms for Balancing Sleep Need and Sleep

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Sleep is vital and universal, but its biological function remains unknown. We seek to understand why we need to sleep by studying how the brain responds to sleep loss. Our studies in *Drosophila* have pinpointed neurons whose sleep-inducing activity switches on as sleep deficits accrue, revealed how this activity switch works, and furnished a molecular interpretation of sleep pressure, its accumulation, and its discharge.