



# Caffeine Preventing Alzheimer's disease!

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## Introduction

Caffeine, the principal alkaloid in coffee, tea, and energy drinks, is one of the most consumed psychoactive substances in the world .

Alzheimer's disease (AD) a progressive neurodegenerative disease that destroys memory and other important mental functions. (1)



## Effect of caffeine

Caffeine has been shown to affect multiple aspects of the central nervous system, and influence in memory improvement, mood improvement, increase in overall metabolism in the brain, and motor neuron stimulation. (1)

## First study

The primary effect of caffeine in the central nervous system is inhibition of adenosine receptors and subsequent modulation of neurotransmitter release.

Caffeine counters this effect by acting as an antagonist at the adenosine receptors A1 and A2A1.

By preventing adenosine from binding , caffeine increases neuronal activity, leading to downstream stimulatory effects on the neurons. (2)

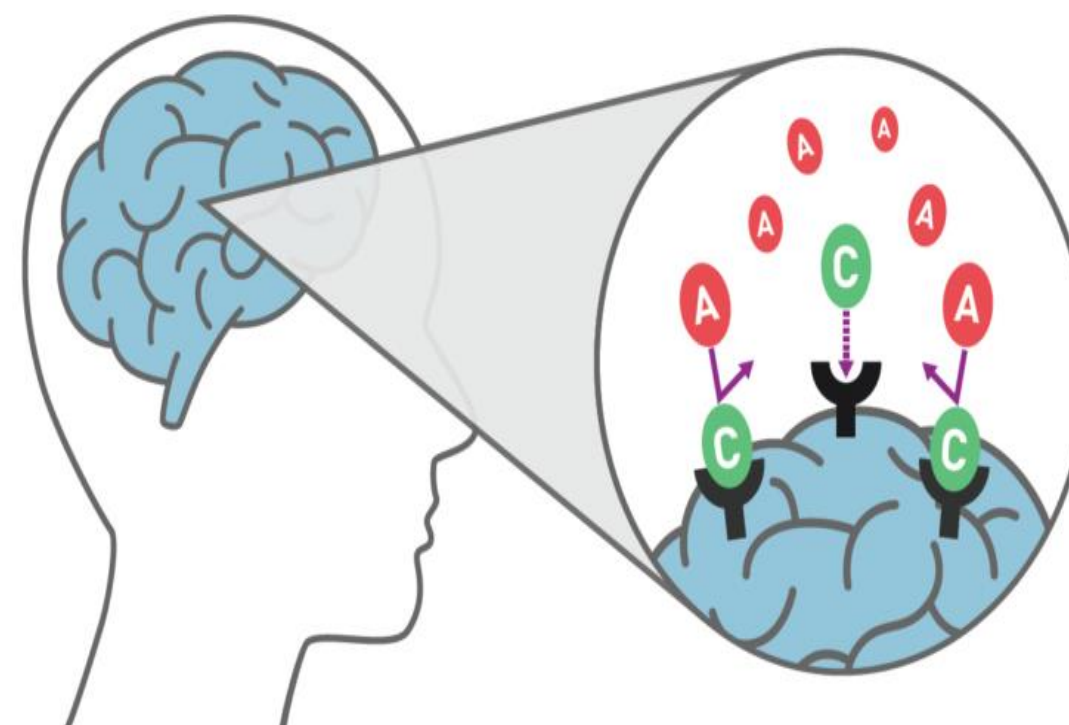


Figure : Caffeine binding to the adenosine receptor

## Second study

In the CAIDE study, coffee drinking of 3-5 cups per day at midlife was associated with a decreased risk of dementia/AD by about 65% at late-life. (3)

## Conclusion

The therapeutic benefits of caffeine consumption against AD are apparent from various recent research studies .This finding might open possibilities for prevention or postponing the onset of AD.

## References

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