

# Caffeine Components Empower the Brain Potentiality

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## Abstract

The brain requires certain fuels to function in high level. Literally, nutritional components can modulate the brain productivity. One of the right nutrition to enhance the brain power is dietary component of caffeine. Caffeine as a component of coffee, tea and chocolate is very popular. Although, depending on the dietary demands or conventional habits some people do not consume caffeine-containing substances (i.e. foods or beverage). Nonetheless, caffeine constituents maximize the brain potential via promoting the central nervous system (CNS) through blocking an inhibitory neurotransmitter (adenosine) and releasing some other specific neurotransmitters (noradrenaline, dopamine and serotonin) in brain. The chemistry of caffeine in a standard dose in fact can affect the brain intelligence.

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## Introduction

Human brain demands a particular nutritional content to function more optimally. The brain responds to the specific nutrients as components of certain nutrition modulate the brain power [1]. Among different

nutritional components, caffeine - based - substance can affect the brain potentiality. Caffeine ( $C_8H_{10}N_4O_2$ ) is the common name for trimethylxanthine which is also known as coffeine, theine, mateine, guaranine, or methyltheobromine (Figure 1) [2].

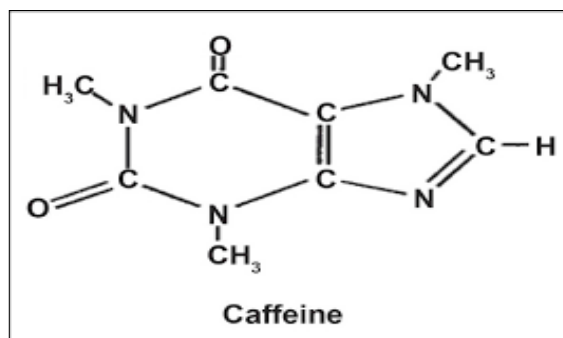


Figure 1. The molecular schematic of caffeine

Caffeine empowers central nervous system (CNS) stimulation via blocking the neurotransmitter adenosine's receptors and unblocking some other specific neurotransmitter including noradrenaline, dopamine and serotonin receptors in brain. In this way, components of caffeine enhance glucose utilization in brain which subsequently reinforce the brain productivity [3].

Caffeine can be found in different forms of nuts and leaves. *Coffea Arabica* that is used for coffee, *Thea sinensis* which is used for tea and *Cola acuminata* that is used as a nut, tea or in soft drinks such as cola [4]. Caffeine in coffee, tea, cola is utilized worldwide. Caffeine, however, is not popular for certain individuals (i.e. due to distinctive natural dietary habits). Nonetheless, consumption of components of caffeine can notably boost the brain functional ability and competence [5].

## Conclusion

The brain reacts to the caffeine. Caffeine substance exist in tea, coffee, and chocolate for example. The right dosage of caffeine - based - components impacts on brain reproductivity. The constituents of coffee in fact boost the brain ability. Nevertheless, it is obvious that the impact of caffeine on brain can be affected by overall daily activities and thus the body condition in different individual. Caffeine would not enhance the brain power when somebody due to

hyperactivity is so exhausted at night time but can boost the brain power in the morning in many people.

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