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Caffeine + L-Theanine: Uses and Effects

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CAFFEINE + L-THEANINE: USES AND EFFECTS
CHEMISTRY OF CAFFEINE

C₈H₁₀N₄O₂
Methylxanthine

(“Caffeine”)
“Thermostabilised Adenosine A2a Receptor In Complex With Caffeine [Signaling Protein]” (“Xanthine Derivatives”).
CAFFEINE AND THE HUMAN BODY

- Caffeine can be quickly distributed into body tissues causing it to rapidly cross the placenta and blood-brain barrier ("Caffeine").
- After it is distributed, it increases stimulation in the brain which includes enhanced cognition and alertness. It can also cause anxiety and increased heart rates (Smith).
CHEMISTRY OF L-THEANINE

C$_7$H$_{14}$N$_2$O$_3$
L-gamma-Glutamylethylamide

(“L-theanine”)
L-THEANINE AND THE HUMAN BODY

- L-theanine, non-proteinic amino acid, appears to have a direct influence on brain activity, including the reduction of stress at high doses ("EBSCO").
- Doses are usually higher than 20mg, which is the natural dose found in tea.
- A study that measured a type of activity in the brain, called alpha activity, showed that participants had a general state of mental alertness, but no anxiety and tiredness included. ("L-theanine")
PSYCHOLOGICAL EFFECTS

• Caffeine and L-theanine are two prominent chemical ingredients found in tea (Smith).

• Tea is a healthy alternative for coffee since it has natural L-theanine (Smith).

• Caffeine is known to increase stimulation and cognition. L-theanine is used to decrease the anxiety and increased heart rate from the initial caffeine intake (Smith).

• When combined these create better reaction times, accuracy, and positive moods ("L-theanine").