

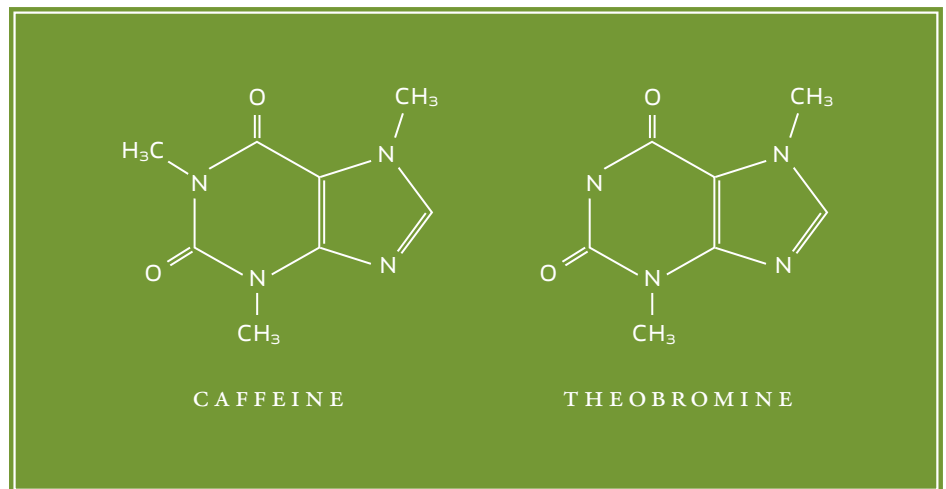
# DOES CHOFFY CONTAIN CAFFEINE?

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There is a persistent myth that cacão (or cocoa) contains caffeine. It would seem that this misconception is based primarily on confusion between two similar alkaloids: caffeine and theobromine. Theobromine is the primary active ingredient in cacão and its name is derived from the genus name of the cacão tree *theobroma cacão*. Theobroma comes from Greek, meaning *food of the gods*.

The confusion regarding cacão and caffeine seems to have a life of its own; it won't go away and yet most references to it are directly related to the myth itself! It is actually quite common to see references that confuse caffeine and theobromine. The two stimulants are related and have similar structures, but are very different chemicals with different properties, effects and origins.

Many people and even some semi-scientific sources confuse the two. For example one company sites in their chocolate's chemical composition contains 1.2% theobromine and 0.2% caffeine, but in another place it says just 1.4% caffeine and doesn't mention theobromine at all, which is obviously incorrect.



The Biochemist (Apr/May 1993, p 15), did chemical composition tests where they specifically distinguished between caffeine and theobromine. They regularly found up to 1.3% by weight, theobromine in chocolate. They also found other pharmacologically active compounds including up to 2.20% phenylethylamine up to 1.54% tele- methylhistamine and occasionally up to 5.82% serotonin. They could not detect any caffeine at all.

We have found that people generally seem to assume that if something acts as a stimulant, it must contain caffeine. Theobromine clearly has stimulant properties, so perhaps people reflexively attribute those effects to caffeine—even though many of the effects are fundamentally different from caffeine. I personally believe that many people casually refer to caffeine, when what they really mean is a whole class

of chemicals called xanthines, of which caffeine is but one example. This is roughly equivalent to calling apes, human, because both are primates and humans are the more familiar type primate. Both are primates, but the differences are pretty obvious.

The amount of xanthines present in cacão is highly dependent on the variety of cacão bean that is used. There are three main varieties of cacão: criollo, trinatario and *forastero*. Criollo beans account for 1-2% of the world's cacão, trinatario's around 10-20% and the rest are forastero. Criollo beans have the highest amount of theobromine but also contain trace amounts of caffeine whereas trinatario and forastero, typically, have little to no caffeine.

### Effects of the two stimulants

Theobromine and caffeine are similarly constructed types of pharmacologically active chemicals but with noticeably different effects:

THEOBROMINE	CAFFEINE
Gentle	Intense
Mild Effect	Strong Effect
Slow Onset	Fast Acting
Long Lasting Effect	Short Lived Effect
Mild Antidepressant	Increases Emotional Stress
Stimulates Cardiovascular System	Stimulates Cardiovascular System
Stimulates Muscular System	Stimulates Respiratory System
Not Addictive	Physically Addictive
Mild Diuretic	Extreme Diuretic

### Choffy

Choffy is 100% organic cacão with no additional additives or chemicals. A typical sample of cacão beans will yield anywhere from zero caffeine to 1,000 parts per million of caffeine (less than 1/20th of the caffeine present in coffee).

While it brews like coffee and supplies you with long lasting energy, Choffy promotes whole body wellness without the negative effects found in other drinks. Naturally loaded with antioxidants and a taste that will make you wonder how you ever did without it, Choffy is poised to make a dramatic entrance into your daily routine.