

# Make mine matcha!

*Green tea and matcha come from the same plant, Camellia sinensis, and both offer powerful antioxidant and heart health benefits, writes herbalist Toni Green.*

caffeine, which boosts this fat-burning ability because it enhances the same metabolic pathway.

## Antioxidant superstar

Green tea and matcha are very high in antioxidants, which repair the cell damage caused by free radicals that is responsible for ageing and many diseases. A study published in *Critical Reviews in Food Science and Nutrition* noted that green tea increases the antioxidant capacity of the body and protects against oxidative stress, particularly oxidative damage to DNA. A more recent study, published in *Nutrition Research*, revealed as much as a two-fold increase in the blood antioxidant capacity of participants drinking green tea, in just eight weeks.

The EGCG and caffeine present in green tea and matcha also improve brain function. A *Pharmacology & Toxicology* study shows that caffeine blocks the inhibitory neurotransmitter adenosine, which in turn increases the firing speed and concentration of the neurotransmitters norepinephrine and dopamine – in short, it enables you to think faster, and of more things. A further study, published in *Nutrition Bulletin*, has revealed that caffeine also improves brain function, especially mood, memory, vigilance, and reaction time.

Despite their brain-boosting prowess and caffeine content, green tea and matcha are less likely to make you jittery or wired, because they also contain the l-theanine, an amino acid that can cross the blood-brain barrier. This is significant because it is able to increase the activity of the neurotransmitter GABA, which has an anti-anxiety effect; it also boosts production of dopamine and calming alpha brainwaves. Together, caffeine and l-theanine work synergistically to reduce brain damage and mental decline that can lead to diseases like Alzheimer's, dementia, and Parkinson's.

Green tea has been shown to increase insulin sensitivity, while decreasing haemoglobin A1C and blood sugar levels. A study published in the *Annals of Internal Medicine* found that those who drank green tea regularly had a 42 percent lower risk of developing type 2 diabetes. The catechins in green tea (EGCG) help to reduce blood pressure, improve blood levels of cholesterol and triglycerides, and protecting LDL ('good') cholesterol from oxidation. \*

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## \* Cancer hope

The exceptionally high antioxidant content in green tea and matcha is also protective against a number of cancers. One meta-analysis published in *Breast Cancer Research Treatment* found that women who drank the most green tea lowered their risk of developing breast cancer by 20-30 percent. Another study, published in the *American Journal of Epidemiology*, found that men who drank green tea had a 48 percent lower risk of developing prostate cancer.

**G**REEN tea has many benefits and it particularly shines when it comes to weight loss, because it up-regulates fat-burning hormones to mobilise fat from fat cells, and in order to burn fat, it must be first be broken down so that it can be transported into the bloodstream. A study published in *Drug Metabolism and Disposition* has shown that green tea's main antioxidant, epigallocatechin gallate (EGCG) inhibits the enzyme that breaks down norepinephrine, which is used by the nervous system to signal fat cells to break down fat: elevated levels of norepinephrine therefore mean stronger signals are sent to those fat cells, so more are broken down for use as fuel for energy production, particularly in muscle cells. Green tea and matcha also both contain