Phenolic Compunds in Green Tea and Green Tea Kombucha

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# Introduction

Green tea (GT), White tea (WT), and Black tea (BT) each originate from the *Camellia sinensis* plant which is native to the tropical and temperate regions of Asia, Africa, and South America (Gopal et al. 2016). Small leaves and leaf buds are unfermented and used to make green tea, while white tea is composed of semi-fermented buds, and black tea is composed of fully fermented old leaves (NCSU n.d.). Tea is a globally consumed beverage second only to water, and the drink is praised for its numerous health benefits. Briefly tea has anti-carcinogenic, anti-angiogenic, anti-mutagenic, anti-inflammatory, anti-bacterial, hypocholesteromic, potentially anti-diabetic, and shows protection against Parkinson’s and Alzheimer’s disease (Chacko et al. 2010, Gopal et al. 2016). These and many other health benefits are mainly attributed to GT polyphenols, less so to flavonols, gallic acid derivaties, vitamins, minerals, enzymes, and others (Gopal et al. 2016).

# GT Polyphenols (Gopal et al. 2016)

# Green Tea Health Benefits

## Skin effects in women (Heinrich et al. 2011)

## Working memory (Schmidt et al. 2014)

## Body weight (Venables et al. 2008, Wang et al. 2010)

# GTK antioxident activity increased 3.25x (Zhou et al. 2022)

## Chemical profile (Jakubczyk et al. 2020)

## Fermentation time (Hsieh et al. 2021)

## Catechin degredation (Jayabalan et al. 2007)

## Health benefits (Cardoso et al. 2020)

# Future kombuchas as a health drink

## GT v GTK v PGT v PGTK

## Health benefits (Cardoso et al. 2020) & Sec. 1

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