

Table 6 Therapeutic activities of white tea

Bioactivities	Effects	Reference
Diabetes	The antidiabetic potential of WTE in α -amylase inhibitory assay showed that the IC ₅₀ value of methanolic extract of white tea was 68.73 μ g /mL whereas that of a standard drug was 39.07 μ g/mL	Kalauni and Sharma, 2018
	A regular consumption of WTE for two months improved the oxidative status of lung tissues of rats with prediabetes	Silveir et al., 2021
	White tea significantly improved the structural changes of the kidneys in mice with T2DM mellitus and markedly ameliorated the glucose intolerance when used in combination with Jiaogulan tea	Xia et al., 2021
	WTE extracted by citric acid increased α -glucosidase inhibition	Shiyan et al., 2020
	The inhibitory effects of α -Amylase and α -Glucosidase by WTE decreased with the prolongation of storage time from 1 to 3 years	Xu et al., 2019
	Crude polysaccharides from white tea showed the inhibitory activity of α -glucosidase	Guo et al., 2021
	WTE effectively ameliorated hyperglycemia and hyperlipidemia in Streptozotocin-induced diabetic rats	Amanzadeh et al., 2020
Cardiovascular disease	1.6% WTE supplemented in a diet high in fats and sugars for 20 weeks prevented the development of metabolic syndrome-associated hypertension in rats	de la Fuente Muñoz et al., 2022
	WTE was efficient in stimulating the uptake of low-density lipoprotein-cholesterol LDL-c in hepatic cells	Luo et al., 2020
Obesity	White tea was the most effective tea type in reducing the body weight and fat accumulation in high fat diet induced obese mice	Liu et al., 2019
	WTE significantly inhibited weight gain of obese mice receiving high fat diet by reducing their food and energy intake	Mao et al., 2021
Fatty liver disease	Daily feed of 1000 mg/kg and 500 mg/kg body weight WTE alleviated hepatic steatosis and liver injury in a mouse model of non-alcoholic fatty liver disease	Li et al., 2022
Plaque	Mouth rinses of steeped 2.5% white tea twice daily for four days was effective in reducing <i>Streptococcus mutans</i> and plaque accumulation on teeth	Damhuji et al., 2022
	0.1 mg/mL white tea mouth rinse was found to be a potent antiplaque agent when used twice daily for ten days	Nagar et al., 2018
	Ethanol- and water- based WTEs were effective against two cariogenic oral bacteria <i>Streptococcus mutans</i> and <i>Streptococcus sobrinus</i>	Kusumawardani et al., 2019
	Enamel samples were hardened significantly after being immersed in a solution containing both white tea and xylitol	Auerkari et al., 2018
	White tea mouthwash significantly inhibited the growth of <i>Streptococcus mutans</i> and <i>Lactobacillus acidophilus</i> , the effect of which was more evident when the concentration increased from 20 μ L to 40 μ L	Jeevanandan, 2019
	White tea was useful for inhibiting the growth of pathogens involved in the development of caries and/or periodontal diseases	Auerkari and Suhartono, 2018
Intoxication	WTE exerted significant protection against neurotoxicity mediated by tert-butyl hydroperoxide and hydrogen peroxide in cells	Li et al., 2019
	Compared with black, red, and green teas, white tea exerted the strongest protective effect on bone tissue and hyaline cartilage against co-exposure of heavy metals, Cd and Pb, to rats	Tomaszewska et al., 2018

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Intoxication	White tea enhanced the liver histology, immunohistochemistry and biochemistry against acrylamide induced toxicity in rats	Hamdy et al., 2022
	1% WTE effectively reduced the activities of biomarkers under conditions of inflammatory, oxidative and liver stress in rats with benzo(a) pyreneinduced hepatotoxicity and lung toxicity	Rangi et al., 2018, Dhatwalia et al., 2019
	Polyphenol extract from white tea effectively lowered biochemical parameters of liver function and hepatocyte damage in mice with CCl ₄ induced liver injury	Cao et al., 2020
	White tea exhibited antioxidant and hepatoprotective activities in mice with acute alcohol-induced liver injury	Yi et al., 2020
Alzheimer's disease	White tea exerted significant protection against A β hallmark (Alzheimer's protein) evoked neurotoxicity by modifying A β amyloid into an amorphous and punctate aggregate morphology	Li et al., 2019
	White tea infusions effectively inhibited the activity of acetylcholinesterase, the administration of which inhibitors is the most common treatment of Alzheimer's disease	Baranowska-Wójcik et al., 2020
Aging	White tea was effective in reducing wrinkles by lowering dermal extracellular matrix degradation, inflammation, and skin barrier damage	Sonawane et al., 2021
	In vivo sun protection factor (SPF) testing of white tea cream product revealed an average SPF of 1	Campa and Baron, 2018
	Silver needle white tea was proved to be effective in preventing D-galactose/lipopolysaccharide-induced aging in mice through antioxidative and anti-inflammatory mechanisms	Chong et al., 2021
	WTE had a significant inhibitory effect on the formation of amyloid mediated by aging and high-fat diet	Wan et al., 2021
Memory deficits	Ischemia impaired spatial learning in rats was avoided by white tea supplementation 10 days before ischemia stroke or sham surgeries	Martins et al., 2017
Cancer	WTE inhibited proliferation of cancer cells via induction of apoptosis	Liu et al., 2018
	The viability of the cancer cells decreased with increasing white tea concentrations	Haghparasti and Mahdavi Shahri, 2018