

Medical Cannabis - What Are Terpenes?

You are probably aware of medical cannabis and may know that both CBD and THC are cannabinoids that can help manage chronic pain, inflammation, insomnia, anxiety, and other medical conditions. However, you may not have heard of terpenes.

Terpenes are chemicals found in many plants which give them their characteristic smell. They are also abundant in essential oils and help protect plants by repelling pests or attracting pollinators. It is thought that terpenes can interact synergistically with other cannabinoids in the cannabis plant (THC, CBD, CBN, CBG, CBC) each enhancing the therapeutic effects of the other, through a process called the “Entourage Effect.” Research on terpenes is in its early phases. While they appear to be quite safe, most available information comes from preclinical studies and anecdotal reports from patients.



Some common terpenes include the following:

Myrcene: The most abundant terpene in cannabis. Also found in thyme, basil, lemongrass, mango, and hops. It is a strong sedative with potentially potent pain-reducing and anti-inflammatory properties and may increase the effects of THC^{1, 2}. It is present in larger amounts in Indica strains of cannabis and likely gives those strains their relaxing, sedating qualities. It may also be present in higher amounts in cannabis strains that contain a balanced mix of THC and CBD.

Limonene: The second most common terpene in cannabis. Gives fruits their characteristic aromas and is reported to be uplifting, euphoric, and anxiety-relieving. Some studies have also shown anti-depressant properties⁴.

Pinene: Gives pine trees their characteristic smell. It may counteract the effects of THC and increase alertness^{5, 6}.

Caryophyllene: Present in cloves and black pepper. Reported to have anti-inflammatory and pain-relieving qualities. It has been shown to reduce the anxiety and paranoia that can result from excessive consumption of THC^{7,8}.

Linalool: Found in lavender and gives it its characteristic aroma. It is reported to have calming, relaxing, anti-anxiety, and anti-depressant effects^{9, 10}.

Each strain of cannabis (chemovar) has a different makeup of cannabinoids and terpenes. By understanding the terpene profile of a particular strain, patients and healthcare providers can select medical cannabis products that better align with their desired therapeutic outcomes and minimize potential adverse effects. More research is needed in this area to continue to better understand the specific effects of terpenes alone and in combination with other cannabis compounds.

- 1- Mark H. Kimmins, MD. Medical Cannabis in Canada. Milner and Associates 2019. P. 53.
- 2- John McPartland and Ethan Russo, MD. Cannabis and Cannabis Extracts: Greater Than the Sum of Their Parts? In Cannabis Therapeutics in HIV/AIDS. (Vol. 1, No. 3/4, 2001) p. 115
- 3- Kimmins, p 54.
- 4- McPartland and Russo, p 115.
- 5- Kimmins, p 54.
- 6- McPartland and Russo, p 118.
- 7- Kimmins p 54.
- 8- McPartland and Russo, p 115
- 9- Kimmins, p 54.
- 10- McPartland and Russo, p 116