Cannabidiol Psychoactivity: A Perspective on Claims of US Patent 6630507

David A Dawson¹

Abstract
The Department of Health and Human Services owns US Patent 6630507 which states that cannabinoids are powerful antioxidants and have the potential to treat myriad ischemic, age-related, inflammatory, and auto-immune disorders. The patent claims cannabinoids are also a natural neuroprotectant which could help treat neurological damage caused by stroke and trauma, as well as other neurological disorders like Alzheimer’s, Parkinson’s Disease, and Multiple Sclerosis. This perspective paper assesses the properties and usefulness of the patented cannabinoid.

Introduction
The healthcare systems of all developed nations are influenced in a significant way by the government overseeing their application. For reasons many and varied and usually attributable to economics, the politicians of industrialized nations have affected the healthcare of their citizens to a greater extent than the physicians which sign the slab of paper authorizing medications. It is now common knowledge the American government has lied to its citizens about the dangers of intromitting phytocannabinoids for almost eight decades, and proof of its knowledge of their medicinal properties occurred 19 years ago.

On April 21st 1999 the United States Department of Health and Human Services filed a patent claiming the rights to a nonpsychoactive phytocannabinoid to treat neurological conditions resulting from concussion or stroke, and its use in the treatment of Alzheimer’s, Parkinson’s, autoimmune diseases, in addition to HIV dementia.

This patent has 26 claims. The first claims the rights to using a therapeutically effective amount of an unidentified cannabinoid to treat a subject who has a disease caused by oxidative stress. Claims 2 & 3 specify that the cannabinoid is “nonpsychoactive” in the distribution of 10 L/kg or more.

Claim 4 reveals that the cannabinoid is not an antagonist at the NMDA receptor. Claims 5 & 6 provide the molecular structure of this nonpsychoactive cannabinoid Figure 1.

Where R is H, substituted or unsubstituted alkyl, carboxyl, alkoxy, aryl, aryloxy, arylalkyl, halo or amino.

Claim 7 states that this molecule is not a pinene. Claims 8 through 13 iterate variations of the molecular structure molecular structure. Claim 14 identifies the unnamed cannabinoid in all the previous claims as cannabidiol. Claim 15 reiterates the government’s rights to ownership of the cannabinoid for “treating an ischemic or neuroregenerative disease in the central nervous system of a subject.” Claim 16 again states that the cannabinoid it is patenting is not psychoactive. Claim 17 identifies the “ischemic or neuroregenerative disease is an ischemic infarct, Alzheimer’s disease, Parkinson’s disease, and human immunodeficiency virus dementia, Down’s syndrome, or heart disease.” Claim 18 establishes rights to treating these conditions “with a cannabinoid that has substantially no binding to the NMDA receptor, comprising determining whether the disease is caused by oxidative stress and if the disease is caused by oxidative stress, administering the cannabinoid in a therapeutically effective antioxidant amount.” Claims 19 through 22 state the patented compound has “substantially no activity at the cannabinoid receptor.”

Claim 23 again states that the compound being patented is cannabidiol. Claim 24 states “the ischemic or neuroregenerative disease is an ischemic infarct, Alzheimer’s disease, Parkinson’s disease, and human immunodeficiency virus dementia, Down’s syndrome, or heart disease.” Claim 25 reiterates that “the disease is an ischemic infarct.” Claim 26

¹ Northcentral University
reveals that the cannabinoid is not an antagonist at the AMPA receptor. Admittedly, this is a rather convoluted patent application. The inherent problem with the application is not its indescribability, but with claims 2 and 16. The patent survived the application process, and the federal government now owns the patent for the use of nonpsychoactive cannabidiol for treating a variety of ailments. Within the patent, it is repeatedly stated that the CBD has no psychoactive properties. Given that the term “nonpsychoactive,” is not defined, the standard definition must apply. For this definition, we look to the World Health Organization; “Psychoactive substances are substances that, when taken in or administered into one’s system, affect mental processes, e.g., cognition or effect. This term and its equivalent, psychotropic drug, are the most neutral and descriptive term for the whole class of substances, licit and illicit, of interest to drug policy.” The remaining claims not yet discussed provide additional molecular structures of the patented nonpsychoactive compounds. If these molecules do not affect mental processes when intromitted, they are a unique form of cannabidiol. This is doubtful. It is more likely the government has claimed patent to a non-psychoactive form of cannabidiol, a form which does not exist. Cannabidiol was deemed illegal by the federal government based on the very fact that this phytocannabinoid changes brain function, which results in alterations of perception, mood, consciousness, cognition, or behavior. This patent claims license to use of a nonexistent form of cannabidiol which has “substantially no effect on the cannabinoid receptor.” Lacking any psychoactive effect, the patented molecule has no value.

References
2. Sales AJ, Crestani CC, Guimarães FS, Joca SRL. Antidepressant-like effect induced by Cannabidiol is dependent on brain serotonin levels; 2018.
5. World Health Organization (n.d.) Psychoactive substances;.