

CBD IN THE TREATMENT OF EPILEPSY

CBD DOES NOT ACT DIRECTLY ON THE CB1 AND CB2 RECEPTOR. IT HAS MULTIPLE MECHANISMS OF ACTION AND PRODUCES SEVERAL PHARMACOLOGICAL EFFECTS THAT MIGHT DEFUSE SEIZURES

“ *Epilepsy is a neurological disorder marked by recurrent, unprovoked seizure.* ”

50 million people have epilepsy worldwide



2/3

of patients manage with anti-epileptic drugs



1/3

of patients are drug resistant



*The results of scientific studies obtained so far the use of CBD in clinical applications could represent hope for **patients who are resistant to all conventional anti-epileptic drugs.***



RECEPTORS AND ANTI-CONVULSANT EFFECT OF CBD

Cannabidiol does not exert its anti-convulsant effects through CB1 receptors, nor through voltage-gated sodium channels. CBD may exert a cumulative anti-convulsant effect, modulating a number of endogenous systems including, but not limited to;

TRPV1 receptor

CBD agonist desensitize TRPV1 result in normalization of intracellular Ca^{2+}

Ca^{2+} channels (T-Type)

CBD block these channel, this mechanism could be responsible for the antiepileptic action.

Serotonin receptor (5-HT)

CBD show a high affinity towards 5-HT_{1A} and 5-HT_{2A}. The activation of 5HT_{1A} produce the inhibition of serotonergic neurons. The dysregulation of brain neurotransmission mediated by 5-HT₂ might results responsible for the pathophysiology of depression and epilepsy

GPR55 receptor

The agonist action of CBD towards these receptors would seem to attenuate synaptic transmission with consequent antiepileptic effects.