

INNOPROT STABLE RECOMBINANT GPCR CELL LINES

HUMAN CB₂ CANNABINOID RECEPTOR STABLE CELL LINE

Product Name:	CNR2/HEK293
Also Known As:	CB2, CNR2, CB-R, CB2A, CB2R
DNA Accesion Number:	GenBank NM_001841
Host Cell:	HEK293
Format:	1 cryopreserved vials
Quantity:	> 3 x 10 ⁶ cells / vial
Storage:	Liquid Nitrogen

Background

Cannabinoid receptor. The cannabinoid delta-9-tetrahydrocannabinol is the principal psychoactive ingredient of marijuana. There are two subtypes of cannabinoid receptors: CB1 and CB2. The CB2 subtype is localized in macrophages, bone marrow and spleen. The proteins encoded by this gene and the cannabinoid receptor 1 (brain) (CNR1) gene have the characteristics of a guanine nucleotide-binding protein (G-protein)-coupled receptor for cannabinoids. They inhibit adenylate cyclase activity in a dose-dependent, stereoselective, and pertussis toxin-sensitive manner. These proteins have been found to be involved in the cannabinoid-induced CNS effects (including alterations in mood and cognition) experienced by users of marijuana.

Material Provided

Innoprot provides two vials of stably transfected cryopreserved HEK293 Cells expressing recombinant human Cannabinoid receptor 1 (GeneBank Accesion Number: NM_001841). Each vial contains > 3 x10⁶ viable cells post-thawed.

Applications

- Radioligand binding assays
- Funtional assays

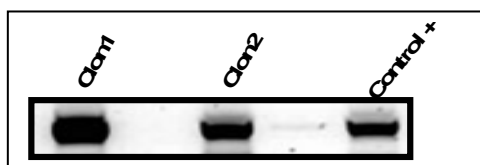
Quality Controls

All cells are performance assayed and test negative for mycoplasma, bacteria, yeast and fungi. Cell viability, morphology and proliferative capacity are measured after recovery from cryopreservation. Innoprot guarantees stable expression for many generations and provides support for cell culture and visualization.

Characterization

Our expression plasmid containing the coding sequence of human Cannabinoid CN2 receptor (CNR2) was transfected in HEK293 cells, using calcium phosphate method. Resistant clones were obtained by limit dilution, and receptor gene expression was tested by RT-PCR (Fig.1).

Fig.1. Clones CNR2 mRNA expression.



Binding assay

Clon1 (26 ug protein/well) was assayed with [³H]CP55940 (0,5 nM) and increasing concentrations of no radioactive competitor.

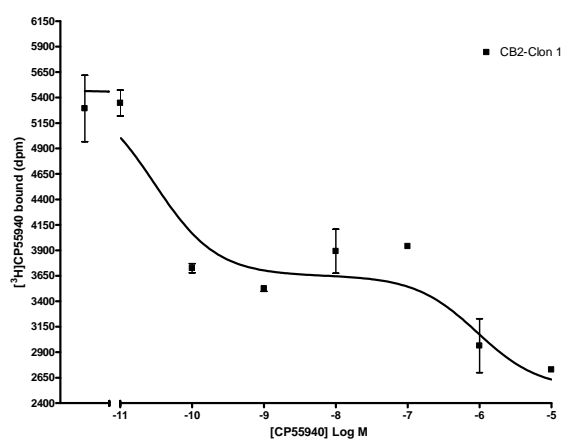


Fig.2 competition binding assay curve

High affinity binding site IC₅₀ : 0,47 nM

Low affinity binding site IC₅₀ : 0,92 uM

pKd = 10,53

Membrane receptor-Bmax = 364,7 pmol/mg

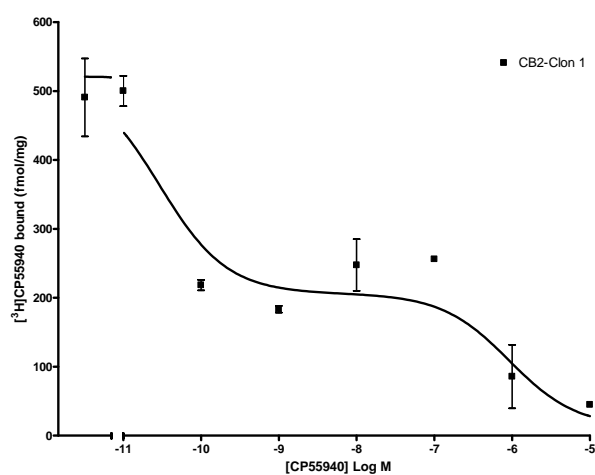


Fig.3. Receptor membrane density assay curve