

## INNOPROT STABLE RECOMBINANT GPCR CELL LINES

### HUMAN CB<sub>2</sub> CANNABINOID RECEPTOR STABLE CELL LINE

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

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#### **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 Accession Number: NM\_001841). Each vial contains > 3 x10<sup>6</sup> viable cells post-thawed.

#### **Applications**

- Radioligand binding assays
- Functional assays

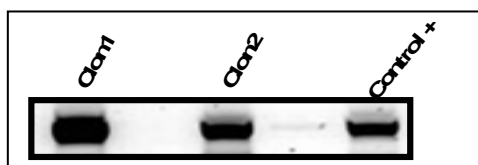
#### **Quality Controls**

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

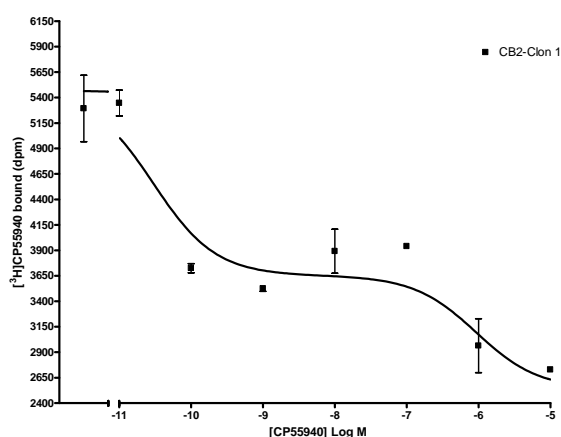
Our expression plasmid containing the coding sequence of human Cannabinoid CN2 receptor (CNR2) was transfected in HEK293 cells, using calcium phosphate method. Resistant clones were obtained by limit dilution, and receptor gene expression was tested by RT-PCR (Fig.1).

**Fig.1. Clones CNR2 mRNA expression.**



## Binding assay

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



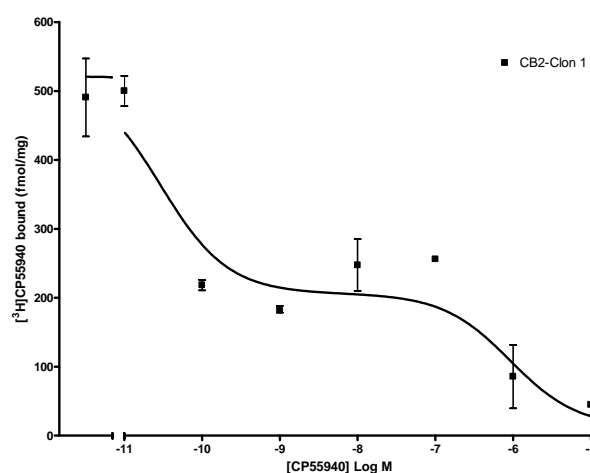
**Fig.2 competition binding assay curve**

**High affinity binding site  $IC_{50}$  : 0,47 nM**

**Low affinity binding site  $IC_{50}$  : 0,92 uM**

**$pK_d$  = 10,53**

**Membrane receptor-Bmax = 364,7 pmol/mg**



**Fig.3. Receptor membrane density assay curve**