



Article

Δ^8 –THC induces up-regulation of glutamatergic pathway genes in differentiated SH-SY5Y: a transcriptomic study

4. Materials and Methods

4.1. Synthesis and Purification of Δ^8 -THC

In order to synthesize of Δ^8 -THC, we added p-toluensulfonic acid (11 mg, 0.064 mmol, 0.1 eq) in solution of CBD (200 mg, 0.636 mmol, 1eq)/DCM (5 mL). The starting material was converted via reflux (6 h) and TLC (R_f = 0.67, silica, petroleum ether-EtOAc 95:5), then quenched with NaHCO_3 s.s. and diluted with DCM. A brine wash, drying, and evaporation were performed on the combined organic phases. The residue was purified by GCC on silica gel (pure petroleum ether to petroleum ether-EtOAc 9:1) to afford 182 mg (91%) of Δ^8 -THC as a brown oil.

To the purification of latter impure Δ^8 -THC we used JASCO Hichrom, 250 × 25 mm, silica UV-vis detector-2075 plus (silica, petroleum-ether-EtOAc gradient from 95:5 to 85:15) and we obtained 150 mg of Δ^8 -THC (1, 99%) as a brownish powder. The compound was purified by HPLC and the purity was higher than 98%. The structure was identified using ^1H NMR obtaining the spectra ^1H NMR (400 MHz, Chloroform- d) δ 6.31 (d, J = 1.6 Hz, 1H), 6.13 (d, J = 1.6 Hz, 1H), 5.46 (d, J = 5.9 Hz, 1H), 4.99 (s, 1H), 3.24 (dd, J = 15.8, 4.3 Hz, 1H), 2.74 (td, J = 10.7, 4.6 Hz, 1H), 2.46 (dt, J = 7.4, 3.6 Hz, 2H), 2.20 – 2.14 (m, 1H), 1.91 – 1.79 (m, 3H), 1.73 (s, 3H), 1.59 (p, J = 7.5 Hz, 2H), 1.37 – 1.25 (m, 4H), 1.14 (s, 3H), 0.92 (t, J = 6.8 Hz, 3H) and it was already published by Gugliandolo, A. et al. [1]. The spectra is fully compatible to the one reported in literature and reported in the literature [2,3]. With Bruker 400 spectrometers (Bruker®, Billerica, MA, USA), ^1H 400 MHz NM spectra were measured. Chemical shifts were referenced to the residual solvent signal (CDCl_3 : δH = 7.26). Silica gel 60 (70-230 mesh) used for low-pressure chromatography was purchased from Macherey-Nagel (Düren, Germany). To monitored the purifications was used TLC on Merck 60 F254 (0.25 mm) plates, visualized by staining with 5% H_2SO_4 in EtOH and heating. Chemical reagents and solvents were from Aldrich (Darmstadt, Germany) and were used without further purification unless stated otherwise. HCPL JASCO Hichrom, 250 × 25 mm, silica UV-vis detector-2075 plus (Tokyo, Japan).

References

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