



6th International Medical Cannabis Conference (CannX 2022) Tel Aviv, Israel, March 14–15, 2022

Abstracts

Scientific Committee

Mike Barnes, MD

Director the Maple Tree Medical Cannabis Consultancy,
Chief Medical Officer of the UK Twenty 21 project run by Drug Science,
Chair of the UK Medical Cannabis Clinicians Society, UK

Nirit Bernstein, PhD

Senior Research Scientist Head of the 'Laboratory of Cannabis Physiology and Agronomy',
Agricultural Research Organization, Volcani Center, Israel

Jeffrey Hergenrather, MD

Founding member of the Society of Cannabis Clinicians, USA

Mauro Maccarrone, PhD, MS

Professor and Chair of Biochemistry,
Department of Biotechnological and Applied Clinical Sciences,
University of L'Aquila, Italy

Yuval (Tuby) Zolotov, PhD

Senior Research Associate,
Regional Alcohol and Drug Abuse Center,
Ben Gurion University of the Negev, Israel

Contents

Oral Presentations	38
01. SCI: Innovations in Science and Medicine	38
02. BIZ: New Technologies, New Opportunities	46
03. AGR: Advanced Agriculture and Production	48
Poster Presentations	49
01. SCI: Innovations in Science and Medicine	49
02. BIZ: New Technologies, New Opportunities	57
03. AGR: Advanced Agriculture and Production	57
Author Index	60

P006

INHIBITION OF HEPATOCELLULAR CARCINOMA GROWTH AND LIVER FIBROSIS BY NANOMOLAR CANNABINOID CONCENTRATIONS

I. Itzhak, F. Barer, P. Fishman

Can-Fite BioPharma, Molecular Biology Labs, Petach-Tikva, Israel

Background and Aim: Cannabinoids bind to the CB1 and CB2 receptors regulating the function of multiple organs and tissues of the body. Interestingly, cannabinoids also bind to the Gi protein associated A3 adenosine receptor (A3AR), up-regulated in inflammatory and tumor cells. Can-Fite research shows that A3AR agonists can knock down inflammation and cancer via the specific induction of apoptosis in these cells. The goal of the current study was to investigate the anti-growth effect of cannabinoids towards hepatocellular carcinoma and fibrotic in the liver and the molecular mechanism involved. **Methods:** Hep-3b hepatocellular carcinoma cells and LX-2 stellate cells were cultured for 48 hours in the presence and absence of 10 nM CBD-rich THC3/CBD15 (T3/C15) and the A3AR antagonist MRS1523. ³[H]-thymidine proliferation assay, and Western blot analyses were performed. **Results:** CBD-rich T3/C15 significantly inhibited Hep-3b and LX-2 cell proliferation (56%± 5.5 ; p < 0.05 and 37.4%± 4.0 ; p < 0.05 , respectively). This response was neutralized by the A3AR antagonist MRS1523. Growth regulatory proteins down-stream to A3AR activation, including p-Akt, NF- kappa B, GSK-3β and β-catenin were all down-regulated. **Conclusion:** Our findings highlight the ability of CBD-rich T3/C15 in nanomolar concentrations to inhibit the growth of hepatocellular carcinoma and liver stellate cells via A3AR activation and de-regulation of the Wnt/β-catenin pathway. The findings open a novel therapeutic opportunity in liver cancer and fibrosis with minute CBD concentrations and low content of psychotropic THC fraction.