candidate circRNA was performed *in vitro* and *in vivo*, including cell viability assay, colony formation assay, cell cycle analysis, apoptosis array and Matrigel migration and invasion assay. Differences between experimental groups and control groups were analysed using the paired t-test and Wilcoxon test.

Results Of the seven-candidate circRNAs, Circ5379-6 was verified to be correlated positively to PPAR α . Overexpression of circ5379-6 lead to up-regulation of PPAR α and it thereby suppressed the cell proliferation, inhibited the cell migration and invasion. The most obvious effect of circ5379-6 expression should be the induction of cell apoptosis in the HCC cell lines. Matrix metalloprotein 9 (MMP-9) was down-regulated expressed while Vimentin, N-Cadherin and E-Cadherin were up-regulated expressed in the tumour generated by the cells with circ5379-6 overexpression. Furthermore, the overexpression of circ5379-6 effectively inhibited the tumorigenesis and metastasis of HCC according to the *in vivo* studies in nude mice.

Conclusions Circ5379-6 acts as an effective tumour inhibitor of HCC via regulating the level of PPAR α . It suggests that induction of Circ5379-6 expression may utilise as a potential therapeutic method for HCC.

IDDF2018-ABS-0210 POKEMON OVER-EXPRESSION ACCELERATES THE PROGRESSION OF NAFLD VIA INCREASING LIPID DROPLET DEPOSIT IN HEPATOCYTE

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Background Non-alcoholic fatty liver disease (NAFLD) is considered as the hepatic manifestation of metabolic syndrome and is characterised by the accumulation of lipid droplets. Pokemon (FBI-1/ZATB7A) is an important proto-oncogene which is involved in cancer development and adipogenic gene expression. The aim of our study is to explore the role of Pokemon in the development and progression of NAFLD.

Methods C57BL/6 mice were fed with normal chow (NC) or high-fat diet (HFD) for 16 weeks to induce NAFLD. Pokemon mRNA and protein were detected by RT-PCR and Western-blot as well as immunohistochemistry. NAFLD cell models were established by oleic acid, and si-Pokemon hepatic cancer cell lines were also constructed by plko lentiviral system.

Results Mice fed with HFD for 16 weeks showed increased body weight, liver weight, liver-to-body weight ratio as well as increased lipid accumulation as shown by H and E staining and Oil Red O staining consistent with the establishment of NAFLD. The Pokemon mRNA as determined by RT-PCR and protein expression as determined by Western blot and immunohistochemistry were significantly increased in mice fed with HFD compared with the NC group ($p < 0.01$). The upregulated Pokemon was accompanied by increased serum TNF- α , IL-6, triglyceride, cholesterol and MDA levels in HFD group ($p < 0.01$). For *in vitro* study, Pokemon and SREBP-1 protein expression in HepG2 were increased in a concentration-dependent manner when treated with oleic acid ($p < 0.01$). SREBP-1 and FAS mRNA expression were also increased which could be counteracted by pokemon silencing. Knock-down pokemon by si RNA in HepG2 cells showed decreased lipid accumulation, triglyceride content, suppressed mRNA expression of lipogenic genes including FASN, SREBP, SCD-1,

HMGCR and genes related with oxidation metabolism including Cpt1 and Acadm.

Conclusions Pokemon promotes NAFLD progression via increasing lipid accumulation and repressing free acids oxidation.

IDDF2018-ABS-0216 ANTIDIABETIC EFFECTS OF SODIUM ORTHOVANADATE AND TRIGONELLA FOENUM GRAECUM SEED POWDER IN LIVER OF RAT MODEL

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Background Diabetes has been considered as one of the fastest growing epidemic worldwide; the number of people with diabetes is estimated to increase from 381.8 million in 2013 to 591.9 million in 2030. Oxidative stress in diabetic tissues is accompanied by high level of free radicals and the simultaneously declined antioxidant enzymes status leading to cell membrane damage. In the present study, the effect of sodium orthovanadate (SOV) and Trigonella foenum graecum seed powder (TSP) administration has been studied on blood glucose and insulin levels, antioxidant enzymes, lipid peroxidation, lipofuscin and DNA degradation, distribution of glucose transporter (glut 2, glut4) in liver tissues of the alloxan-induced diabetic rats and to see whether the treatment with SOV and TSP is capable of reversing these effects.

Materials and methods Diabetes was induced by administration of alloxan monohydrate (15 mg/100 gm b.wt.) and rats were treated with 2IU insulin, 0.6 mg/ml SOV, 5% TSP in the diet and a combination of 0.2 mg/ml SOV with 5% TSP separately for 21 days. Control animals were given only the vehicle.

Results Diabetic rats showed hyperglycemia with almost four-fold high blood glucose levels. Hyperglycemia increases lipid peroxidation and DNA degradation, causing decreased activities of membrane-bound ATPases, antioxidant enzymes and glucose transporter expression with diabetes in the rat liver. Rats treated with a combined dose of SOV and TSP had glucose levels comparable to controls, similar results were obtained with the activities of antioxidant enzymes, membrane-bound ATPases, DNA degradation, lipid peroxidation and glucose transporter in the liver of diabetic rats.

Conclusions Our results showed that lower doses of vanadate (0.2 mg/ml) could be used in combination with Trigonella to effectively counter diabetic alterations without any toxic side effects. Therefore combined therapy can indeed be considered a better alternative to being explored further as a means of diabetic control.

IDDF2018-ABS-0232 WEARABLE TECHNOLOGY (MI BAND AND YU BAND) A BOON FOR PATIENTS WITH CHRONIC KIDNEY DISEASE

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Background New wearable sensor networks together with smartphone applications are being examined and tested for their potential to monitor and manage patients with chronic kidney disease (CKD). To develop methods for analyses and