



佛教慈濟醫療財團法人

花蓮慈濟醫院

Hualien Tzu Chi Hospital,
Buddhist Tzu Chi Medical Foundation



宏潤生技

HOME RUN BIOTECHNOLOGY



評估銀杏果蟲草滴丸 之醫療應用

07 Nov 2023
花蓮慈濟醫學中心

Cardiovascular and Mitochondrial Related Disease Research Center

銀杏果黃金蟲草滴丸於 第二型糖尿病之功效評估

負責執行：Shibu 博士

中心主任：黃志揚講座教授暨副院長

花蓮慈濟醫院 心血管暨粒線體相關疾病研究中心

Cardiovascular and Mitochondrial Related Disease Research Center, Hualien Tzu Chi Hospital

黃金蟲草滴丸之第二型糖尿病動物模式應用

APOE
ko mice



滴丸治療



Sacrifice



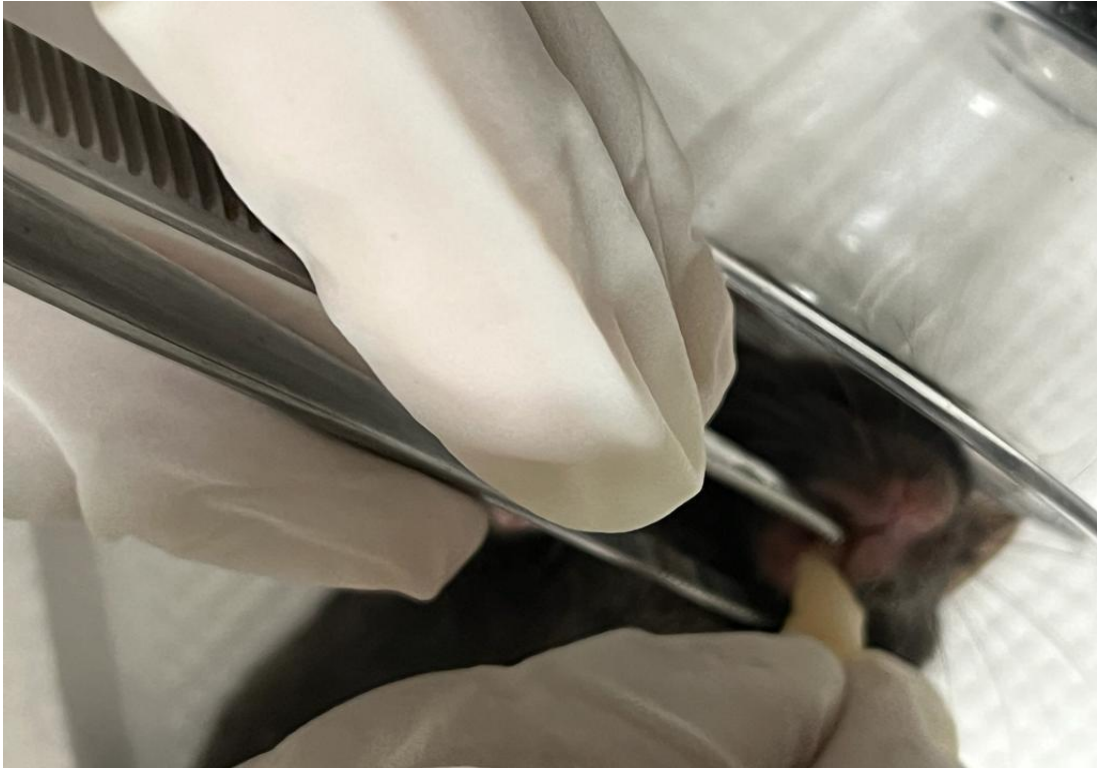
Kidney
Tissue



- H and E staining
- Pas Staining
- Masson's Trichrome staining
- Western Blot
- Tunnel Assay
- Immuno Histo Chemistry

Experimental groups

Control C57BL	Control APOE KO 正常飲食	APOE KO T2DM	APOE KO T2DM 滴丸治療
9 mice	9 mice	9 mice	9 mice

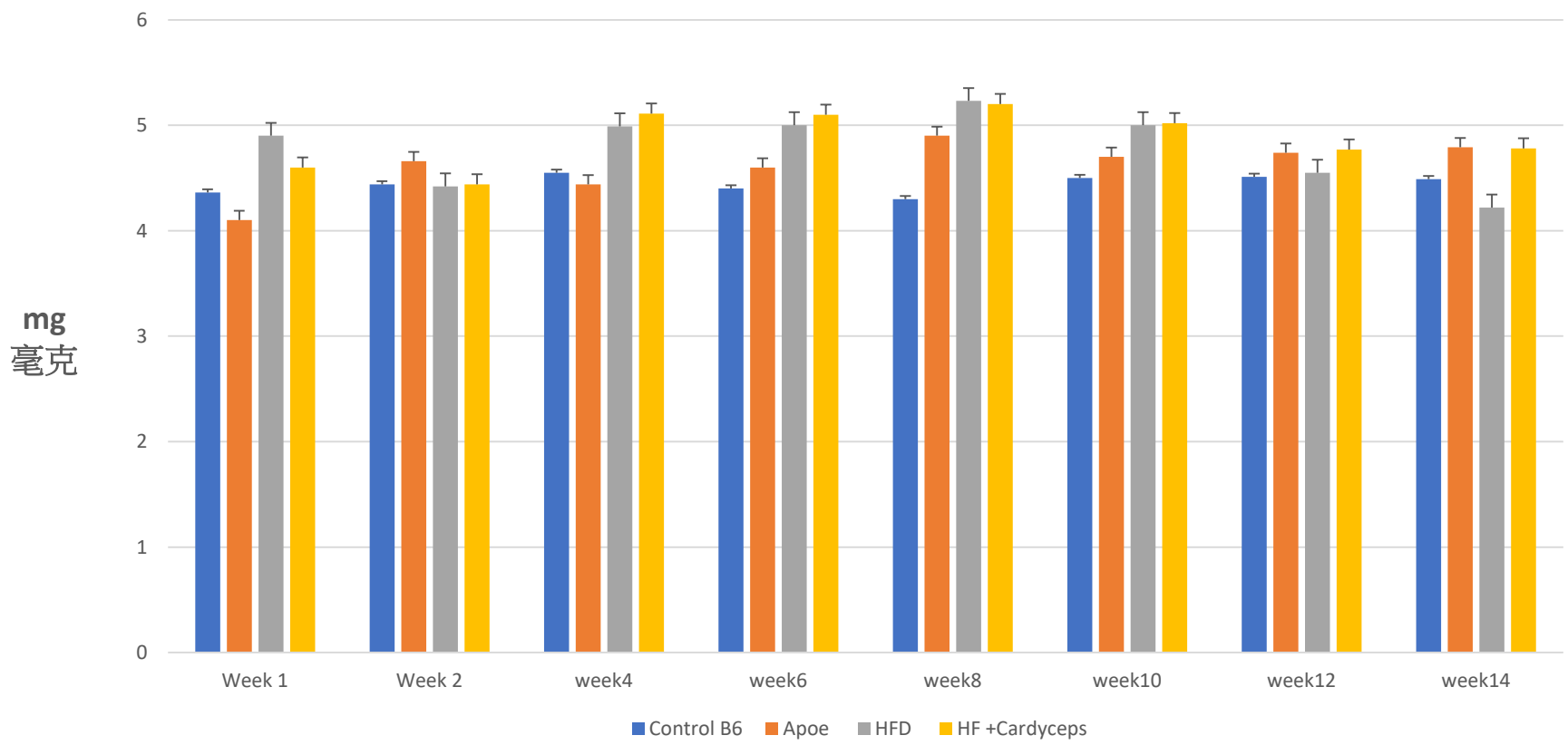


Buccal Administration
每3天吃一粒

實驗結果:

銀杏果黃金蟲草滴丸維持第二型糖尿病食物攝取

食物攝取量

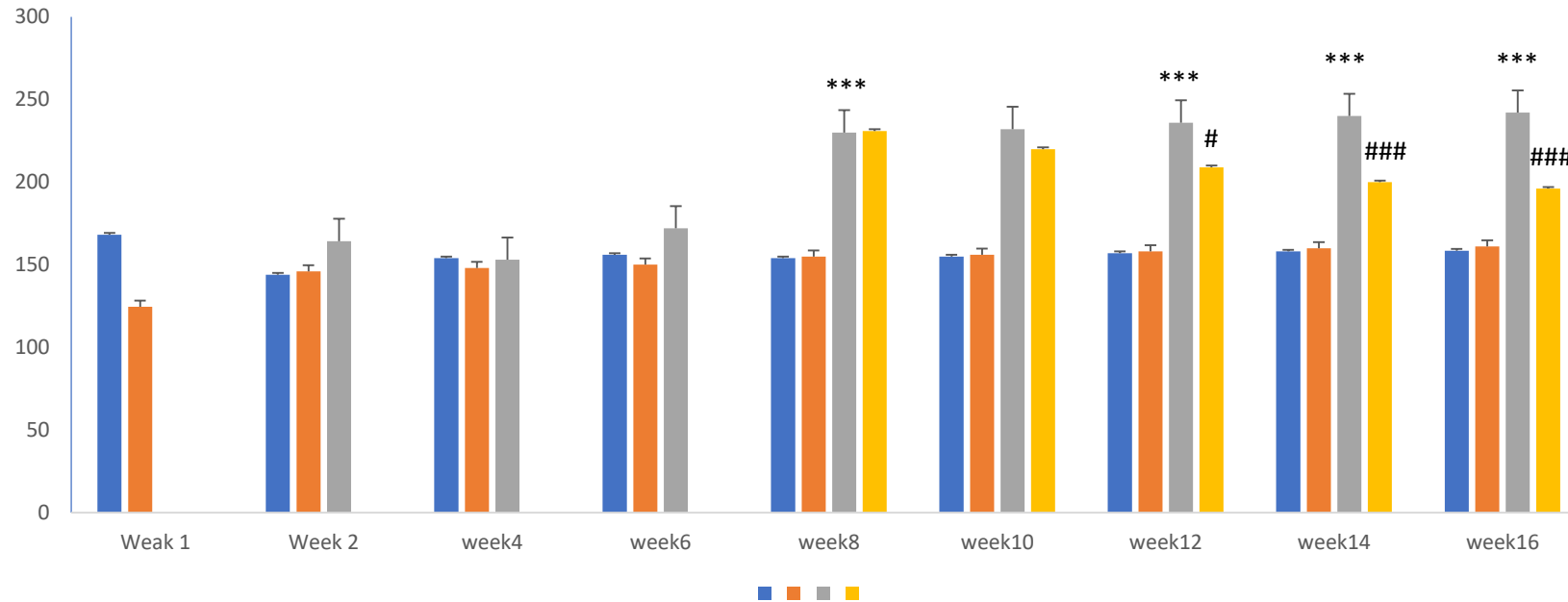


- Control B6 正常飲食
- Control Apoe 正常飲食
- HFD(高脂飲食)
- HFD(高脂飲食)+滴丸

實驗結果:

銀杏果黃金蟲草滴丸降低第二型糖尿病空腹血糖

Blood Glucose 血糖值



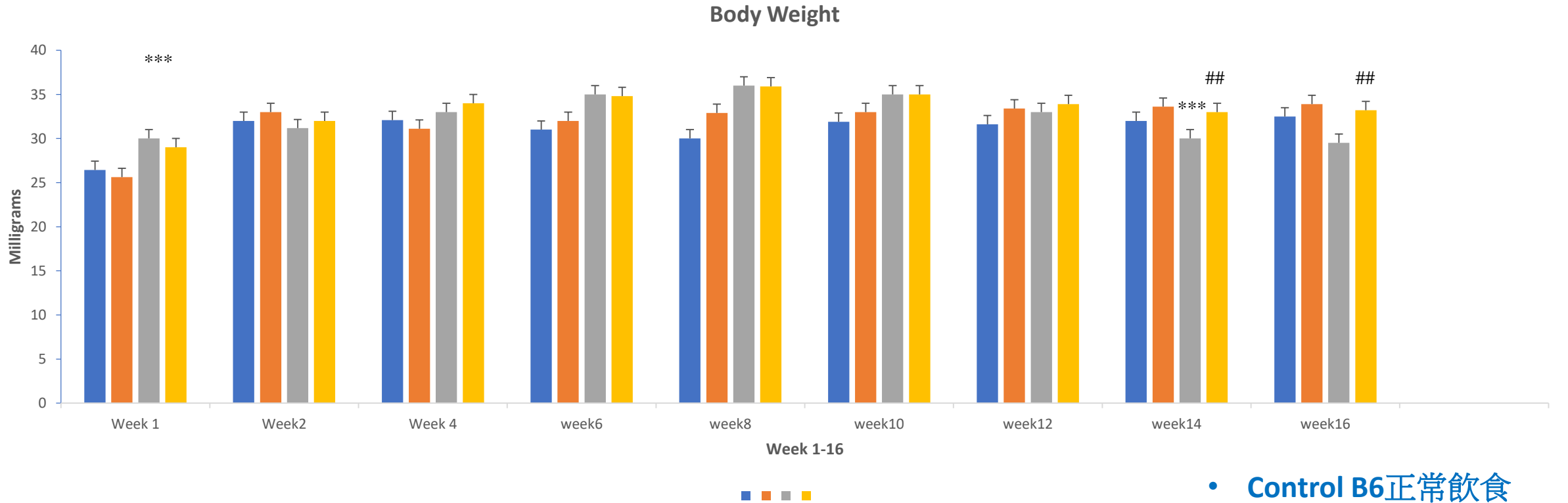
***= P <0.001 when compared with Apoe group, ###= P <0.001, #= P <0.05 when compared to Western Diet.

- Control B6 正常飲食
- Control Apoe 正常飲食
- HFD(高脂飲食)
- HFD(高脂飲食)+滴丸

Relative Blood Glucose graph of mice challenged with *Cardyceps militaris* administered in HFD induced mice model with control B6 and control Apoe (Administration of *Cardyceps militaris* started at week 8)

實驗結果:

銀杏果黃金蟲草滴丸維持第二型糖尿病動物體重



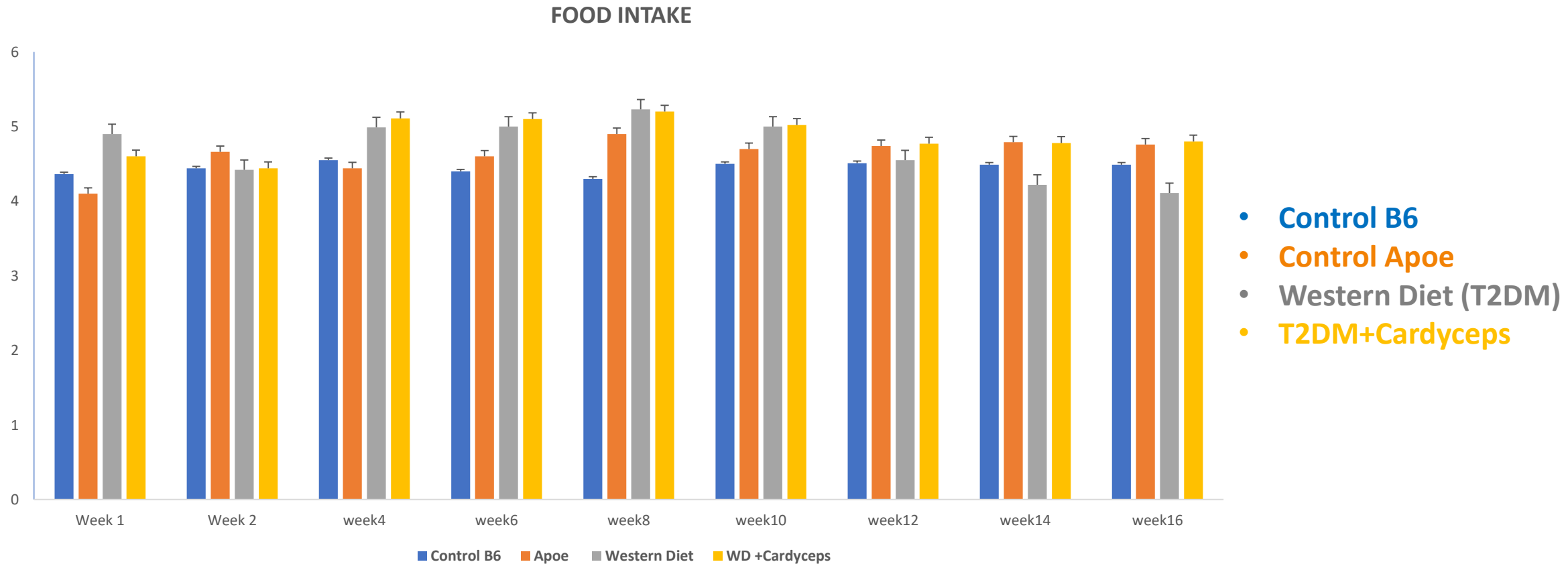
***= P < 0.001 when compared with Apoe group, ##= P < 0.01 when compared to Western Diet.

Relative Body weight graph of mice challenged with *Cardyceps militaris* administrated in Western diet induced mice model with control B6 and control Apoe

- Control B6 正常飲食
- Control Apoe 正常飲食
- HFD (高脂飲食)
- HFD (高脂飲食) + 滴丸

實驗結果:

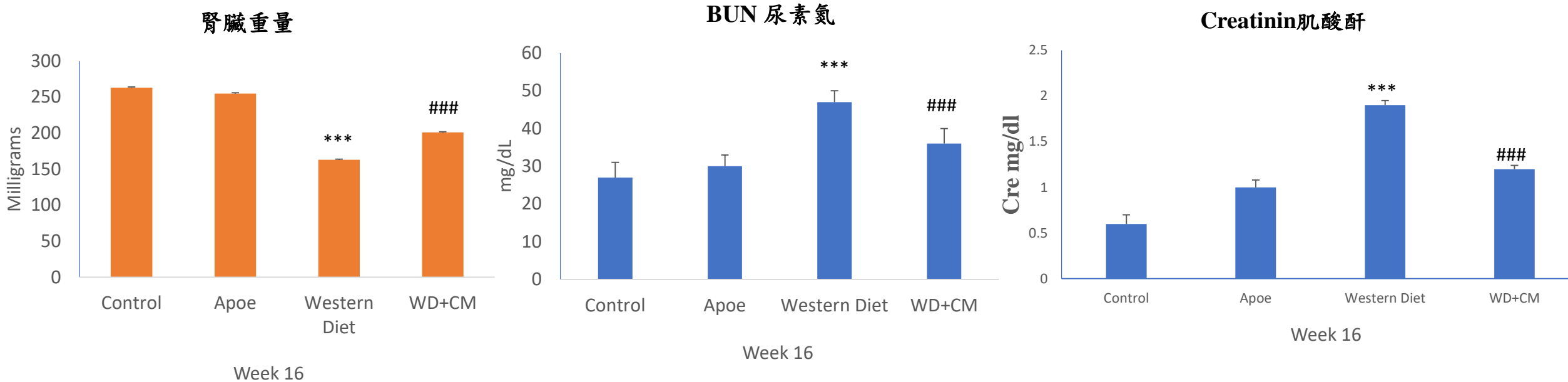
銀杏果黃金蟲草滴丸維持第二型糖尿病食物攝取



Relative Food Intake graph of mice challenged with *Cardyceps militaris* administrated in HFD induced mice model with control B6 and control Apoe

實驗結果:

銀杏果黃金蟲草滴丸維持第二型糖尿病腎臟功能

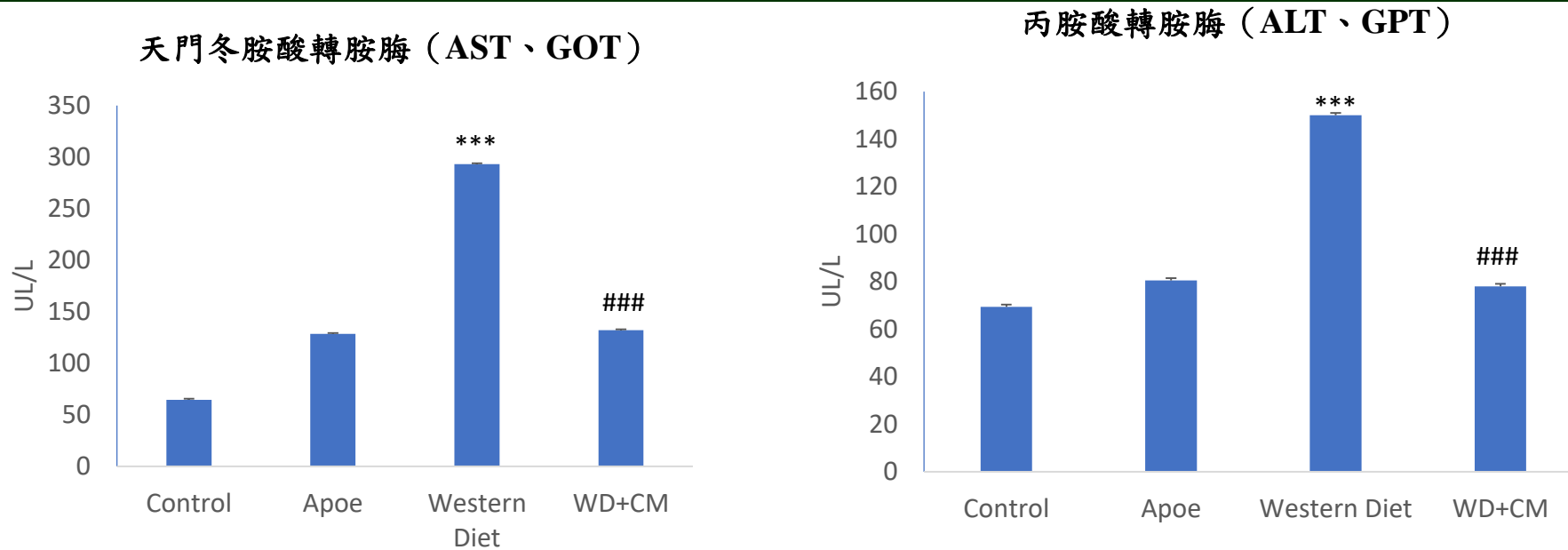


***= P <0.001 when compared with Apoe group, ###= P <0.001 when compared to Western Diet.

Conclusion : The results show that T2DM mice displayed abnormalities in Kidney size and function which was significantly reduced when treated with *Cardyiceps militaris*

實驗結果:

銀杏果黃金蟲草滴丸維持第二型糖尿病肝臟功能

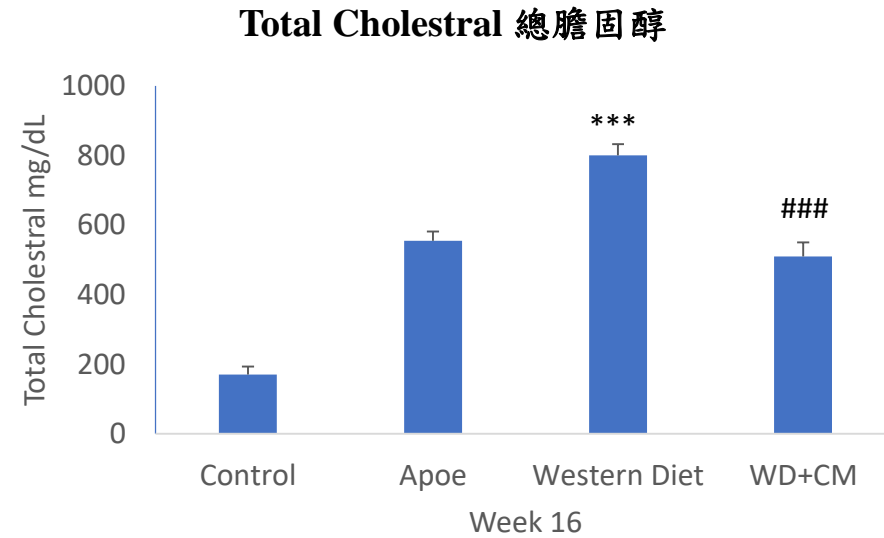
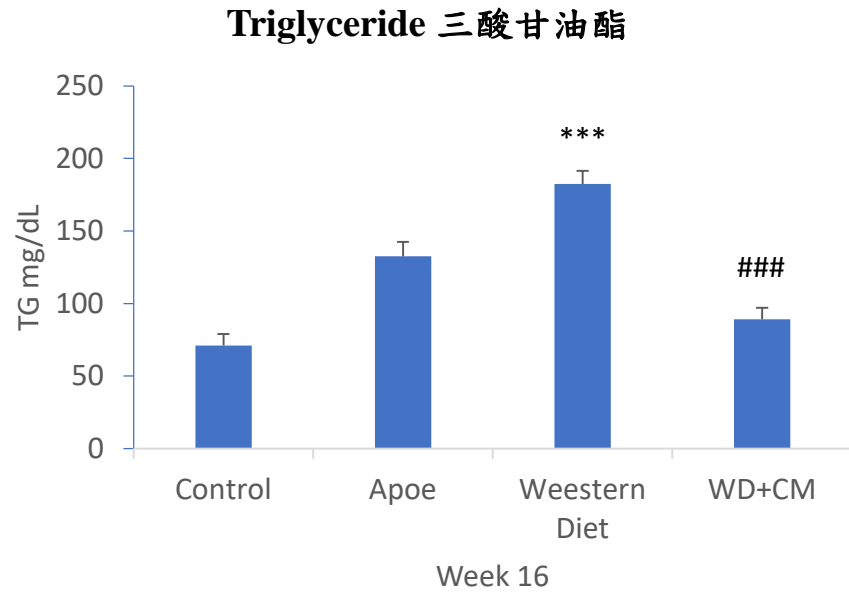


***= P <0.001 when compared with Apoe group, ###= P <0.001 when compared to Western Diet.

Conclusion : The levels of ALT and AST in T2DM increased drastically in serum indicating serious tissue damage particularly the liver tissue (increases ALT than AST) which was significantly reduced when treated with *Cordyceps militaris*

實驗結果:

銀杏果黃金蟲草滴丸維持第二型糖尿病血脂



***= P <0.001 when compared with Apoe group, ###= P <0.001 when compared to Western Diet.

Conclusion : T2DM mice show hyperlipidaemic condition which was significantly reduced when treated with *Cardyceps militaris*

探討銀杏蟲草於SGLT1/SGLT2轉錄調控機轉的 —— 研究規劃 ——

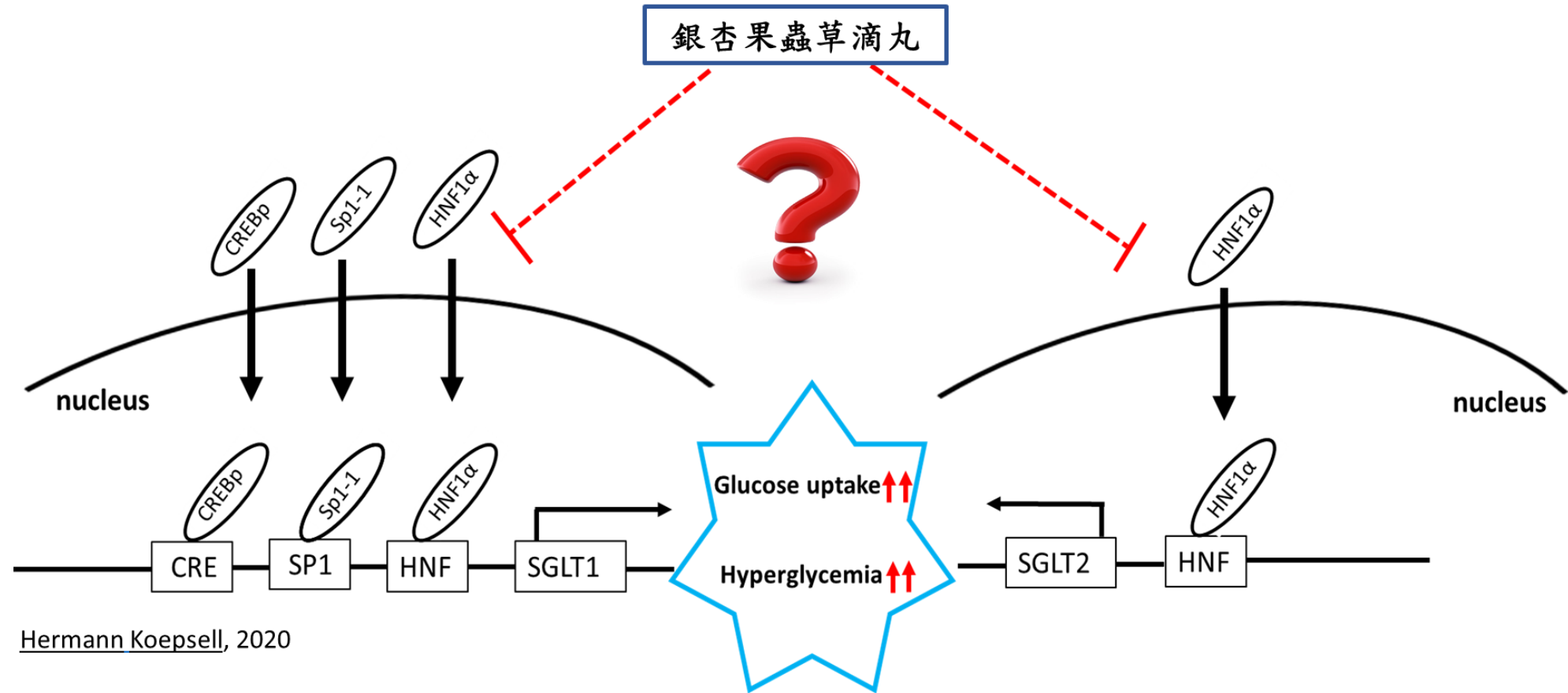
組織病理切片

Heart/Kidney Tissue

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graph LR; A[Heart/Kidney Tissue] --> B["• H and E staining  
• Pas Staining  
• Masson's Trichrome staining  
• Western Blot  
• Tunnel Assay  
• Immuno Histo Chemistry"]; style A fill:#add8e6,stroke:#000,stroke-width:1px; style B fill:#add8e6,stroke:#000,stroke-width:1px;
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- H and E staining
- Pas Staining
- Masson's Trichrome staining
- Western Blot
- Tunnel Assay
- Immuno Histo Chemistry

探討銀杏蟲草於SGLT1/SGLT2轉錄調控機轉的 —— 研究規劃 ——



探討蟲草調控 **SGLT1/SGLT2** 上游轉錄因子之潛在性分子機轉

評估抑制乳癌細胞生長

(1)三陰性乳癌(2)病人primary culture cell



負責執行：林佑融 博士

中心主任：黃志揚講座教授暨副院長

花蓮慈濟醫院 心血管暨粒線體相關疾病研究中心

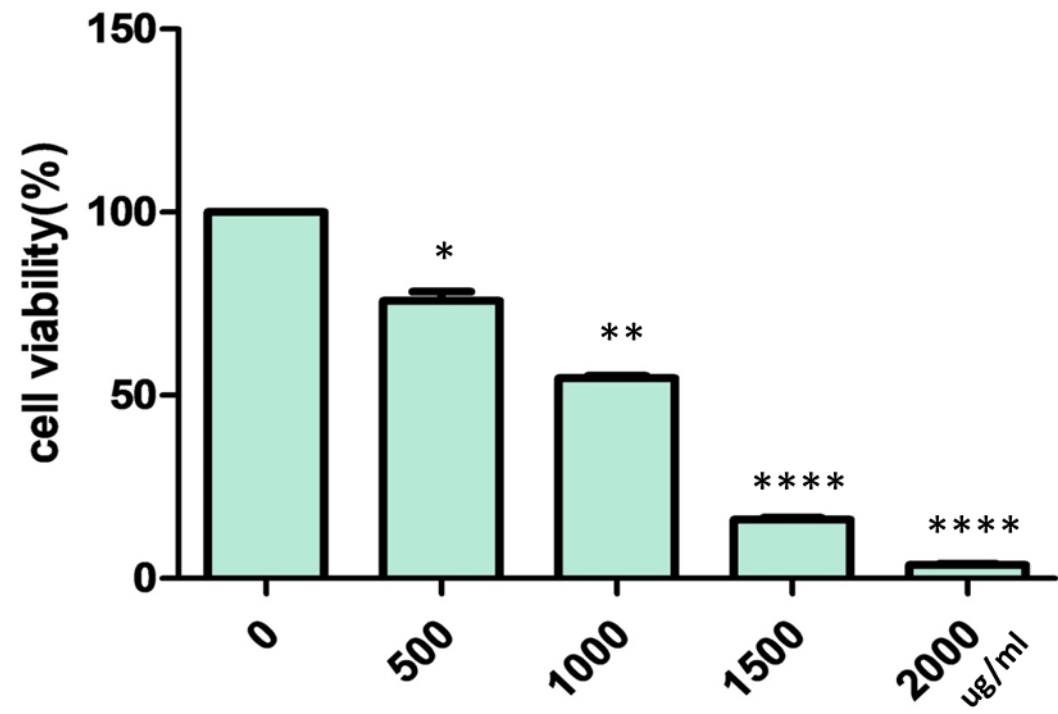
Cardiovascular and Mitochondrial Related Disease Research Center, Hualien Tzu Chi Hospital

實驗結果:

銀杏果蟲草滴丸 (宏潤) 抑制三陰性乳癌生長



MDAMB231

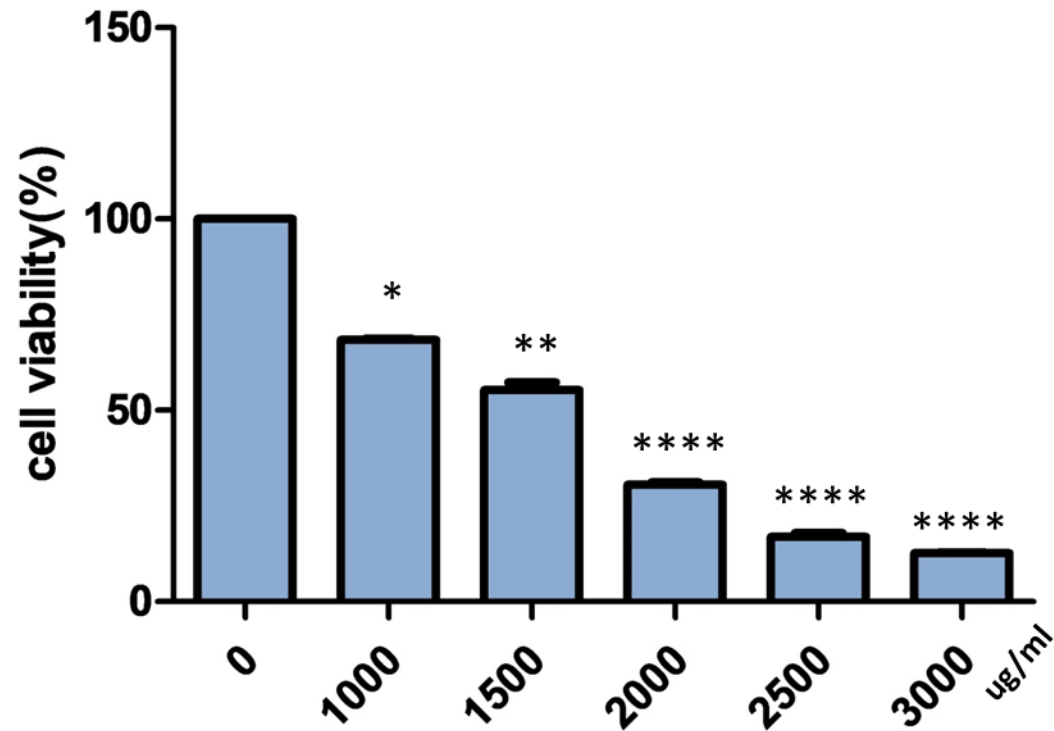


實驗結果:

銀杏果蟲草滴丸(宏潤) 抑制 花慈乳癌病患初期培養細胞生長



花慈三陰性乳癌病人培養癌細胞



評估抑制抗藥性(drug resistance)癌細胞生長

(1)肺癌細胞 (2)抗藥性肺癌細胞

負責執行：林佑融 博士

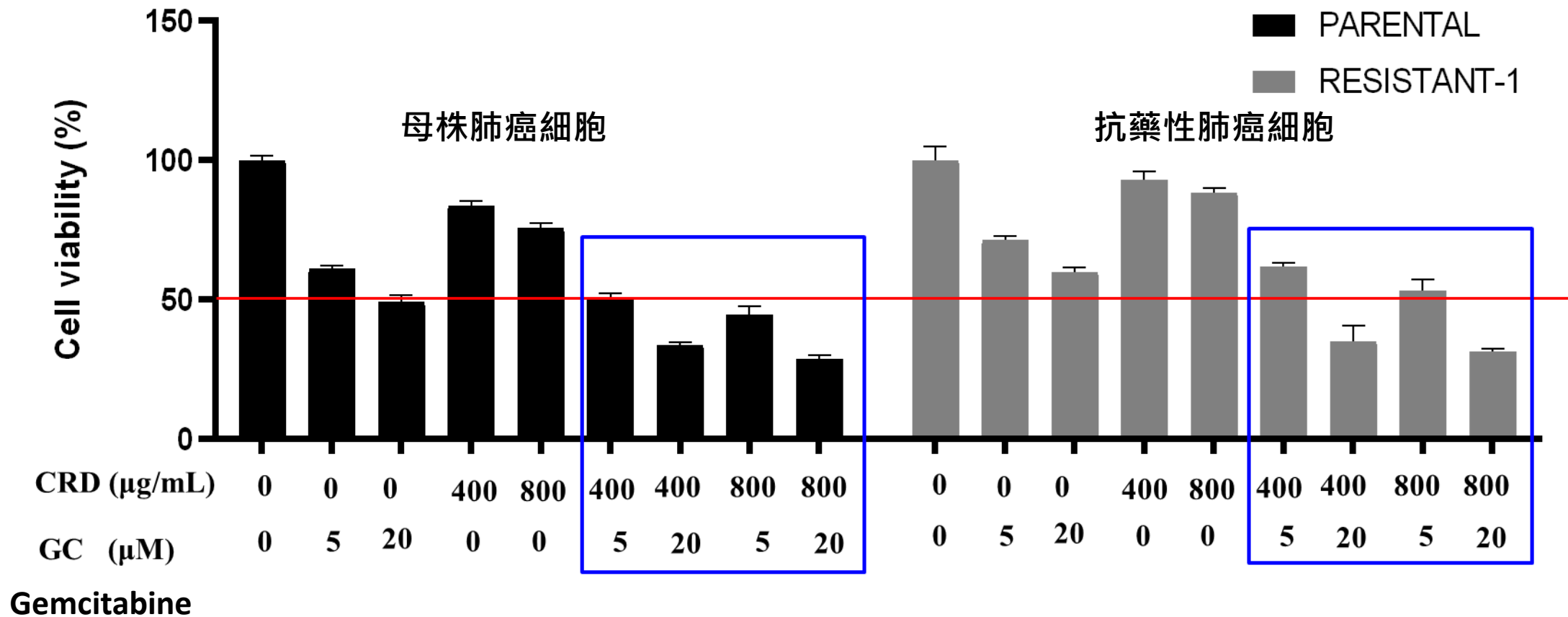
中心主任：黃志揚講座教授暨副院長

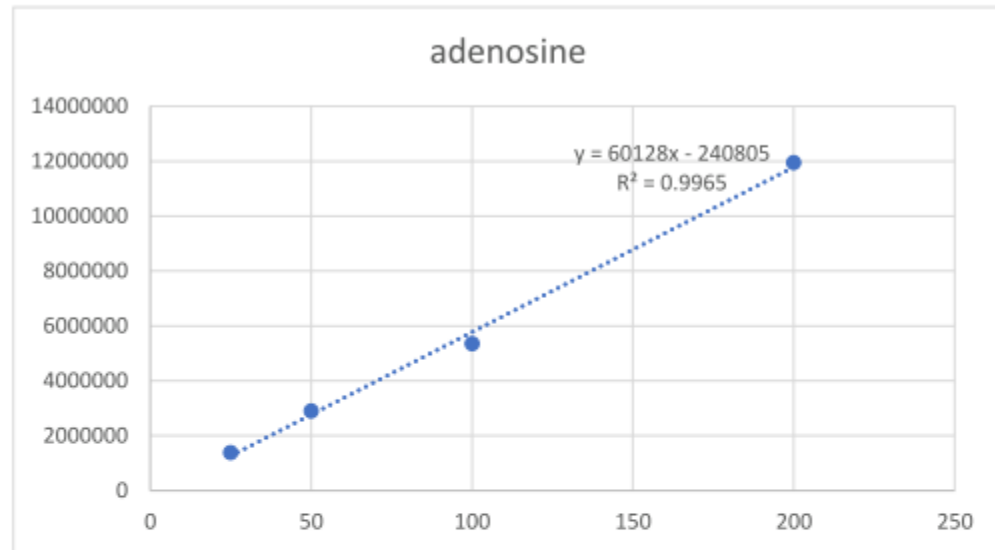
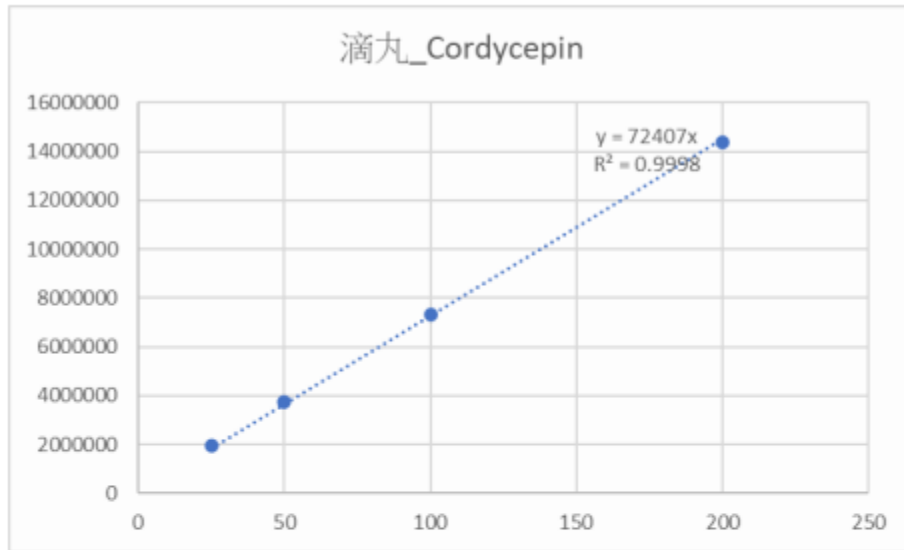
花蓮慈濟醫院 心血管暨粒線體相關疾病研究中心

Cardiovascular and Mitochondrial Related Disease Research Center, Hualien Tzu Chi Hospital

實驗結果:

銀杏果蟲草滴丸(宏潤)加強西藥抑制抗藥性肺癌生長





Cordycepin		
蟲草滴丸	取0.501	g
溶至25 ml	3710.435138	ug/g
每顆 30 mg	111.3130541	ug/顆

Adenosine		
蟲草滴丸	取0.501	g
溶至25 ml	311.8273	ug/g
每顆 30 mg	9.354819	ug/顆

以肺癌細胞實驗為例:有效濃度400ug/ml滴丸是從3顆滴丸(100mg)溶於1ml中取出
 ➤ 333ug中的0.4% 約有1.2ug 蟲草素

表五、市售產品中腺核苷及蟲草素之含量檢測結果

編號	檢測值 (mg/g)		檢測值與其每日建議食用量之換算結果(mg/day)		保健功效 成分標示	原料成分標示
	腺核苷	蟲草素	腺核苷	蟲草素		
S1	0.11	2.10	0.2	3.2	無標示	蛹蟲草固態發酵子實體粉末、硬脂酸鎂、二氧化矽
S2	0.31	0.16	0.5	0.3	無標示	膳食纖維、馬卡粉末、微結晶狀 α -纖維素、黃精、蛹蟲草萃取物、精胺酸、硬脂酸鎂、專利韭菜籽萃取物
S3 ^a	0.47	1.0	1.3 - 2.0	3.0 - 4.5	無標示	蛹蟲草子實體、咸豐萃取物、葛藤萃取物、鋅酵母、鎢酵母
S4	0.32	2.2	0.2	1.6	無標示	蛹蟲草子實體(固態發酵)
S5 ^b	1.55	12.3	0.9	7.4	含蟲草素 8.6 mg/份	100 %北冬蟲夏草子實體
S6	0.27	7.8	0.1	3.8	無標示	蛹蟲草粉末、枸杞萃取物、糊精

^a S3產品每日建議使用量為每次3粒，每次2-3粒，故以數值區間呈現檢測值換算每日建議食用量

^b S5產品每日建議使用量為1份(4粒)，其檢測值與其每日建議食用量之換算結果為7.4 mg/份，高於罐標值8.6 mg/份之80%，為與標示相符

**市售產品建議用量為0.2 mg-2mg
銀杏果蟲草滴丸1小粒即有0.1mg**



**屏除未來需做藥物動力及臨床試驗成果
建議每日可吃2~10顆左右**

銀杏果蟲草 (宏潤) 針對癌症未來規劃

- 滴丸測試
 - 抗藥性肺、乳、肝、大腸癌測試
癌細胞凋亡
轉移
- 接續原本實驗找出分子機轉
cAMP pathway