Research Article

Natural phenolic compounds potentiate hypoglycemia via inhibition of Dipeptidyl peptidase IV

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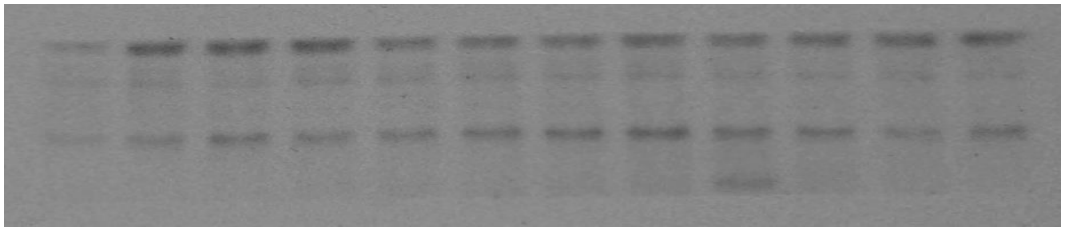
Supplementary information

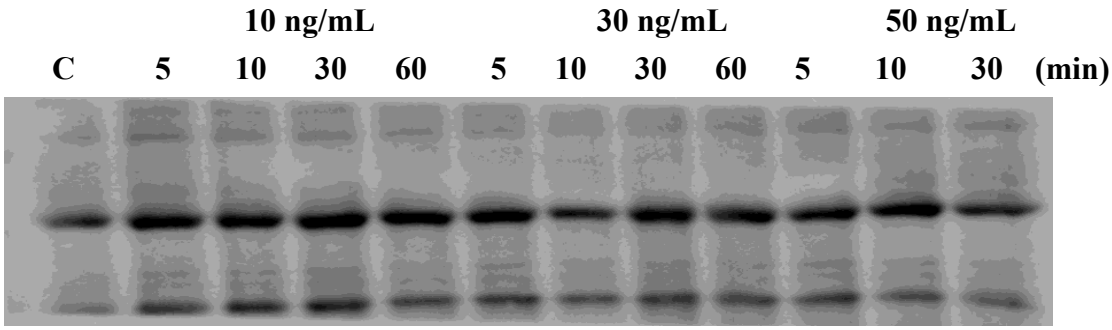
The contiguous membrane image could not be provided due to our Western blotting process. After transferring, membrane would be cut immediately based on the molecular weight, hybridized with antibodies, and snapshotted each by each. Therefore, The uncut membrane image was absence.

Figure 3A

I. P-ERK



II. **P-ERK**



III. P-ERK (This image is used in main figure 3A)

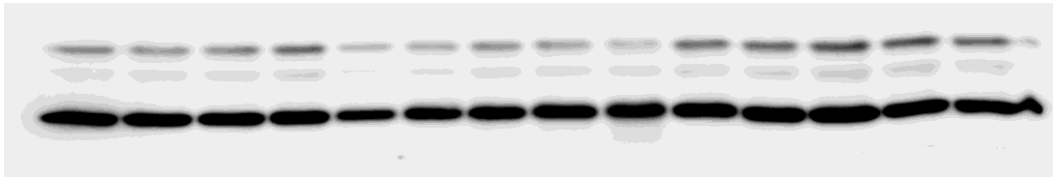
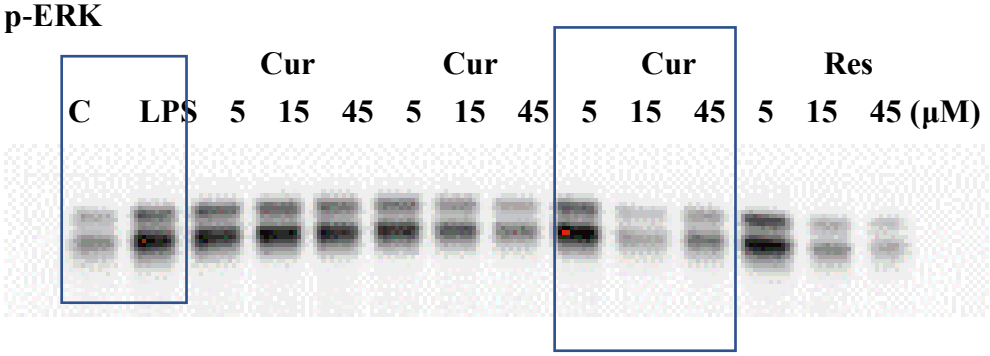


Figure 3B (The rectangular circled zone are used in main figure 3B)

p-ERK



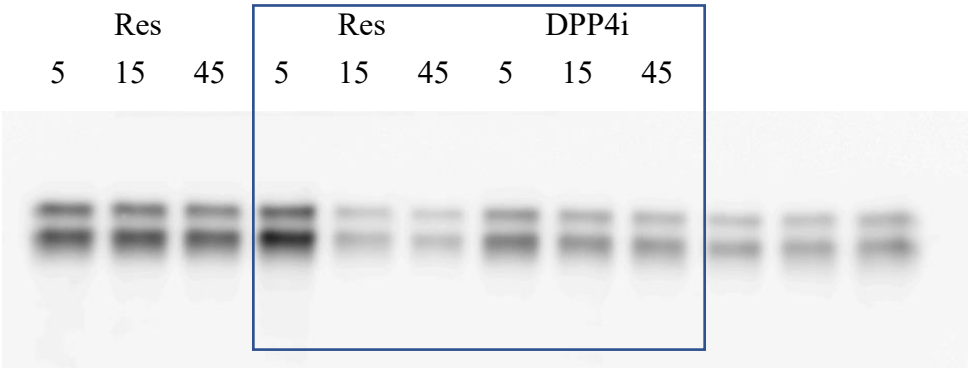
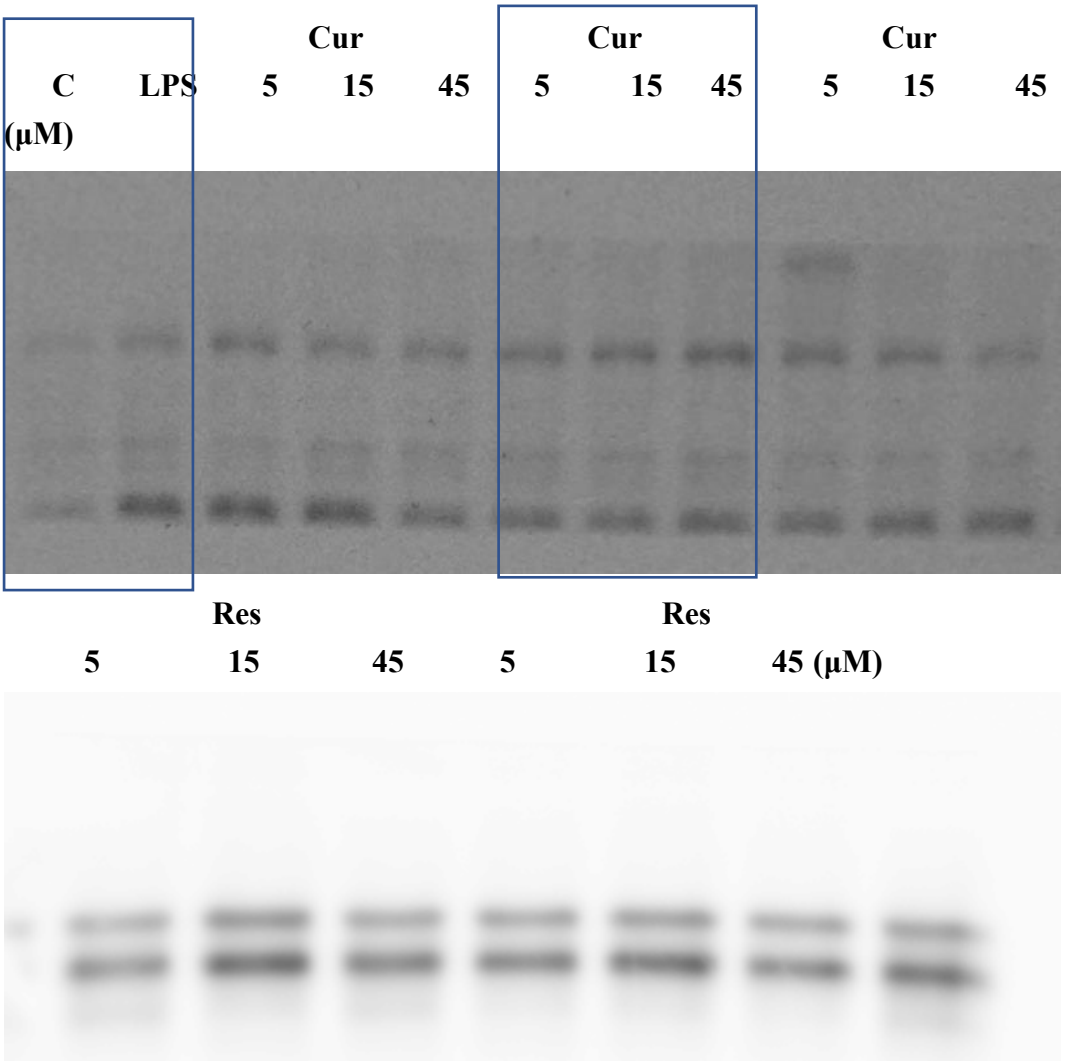
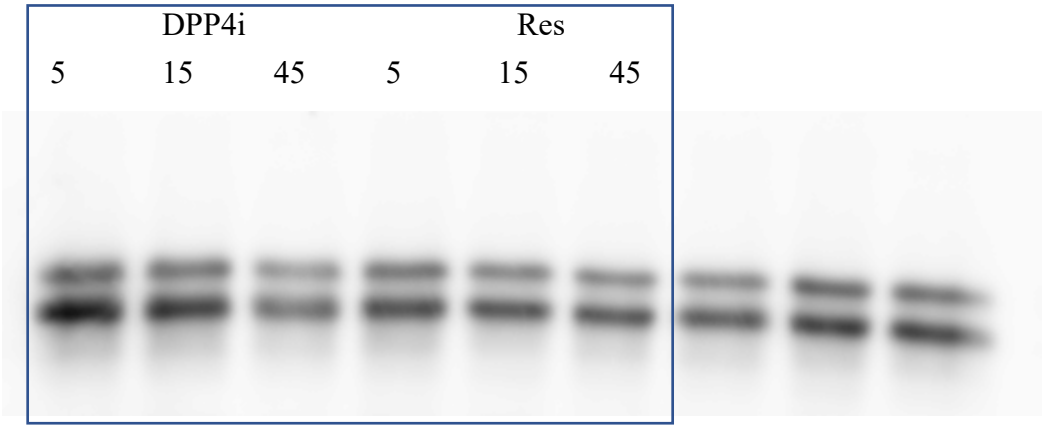


Figure 3C (The rectangular circled zone are used in main figure 3B)

P-ERK

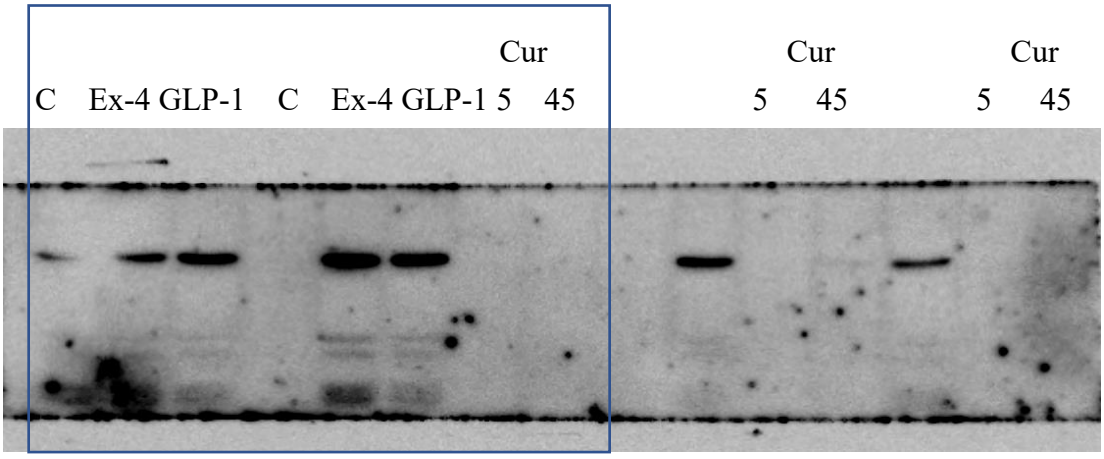




3.

Figure 3D **(The rectangular circled zone are used in main figure 3B)**

I



II.

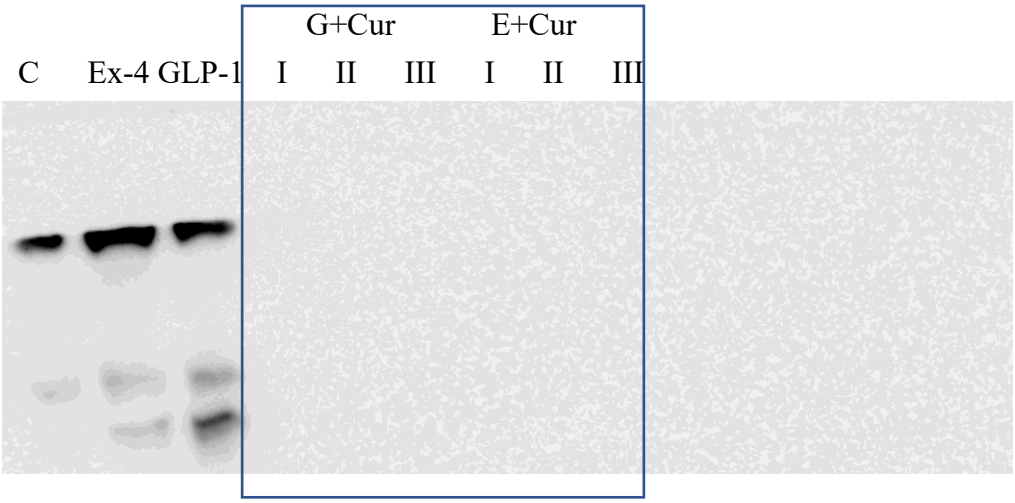


Table S1. Inhibition of DPP-IV activity in top-4 selected natural compounds

Compounds	Concentration (μM)	Relative activity (% to DPP4-IV activity)
Sitagliptin (DPP-IV inhibitor)	100	18.3 ±2.4
Rutin	100	66.7 ± 6.0
Antroquinonol	100	14.6 ± 5.2
HCD	100	19.8 ± 3.7
Curcumin	100	22.5 ± 4.1

DPP4 activity is 100.0 ± 3.7

Table S2. Inhibition of top-4 selected natural compounds on DPP-IV activity of CaCO-2 cells

Compounds	Concentration (μM)	Relative activity (% to Control)
Con	0	100
Rutin	30.0	87.2 ± 5.3
Antroquinonol	11.5	46.5 ± 6.1
HCD	18.8	52.0 ± 4.9
Curcumin	30.0	67.1 ± 7.2

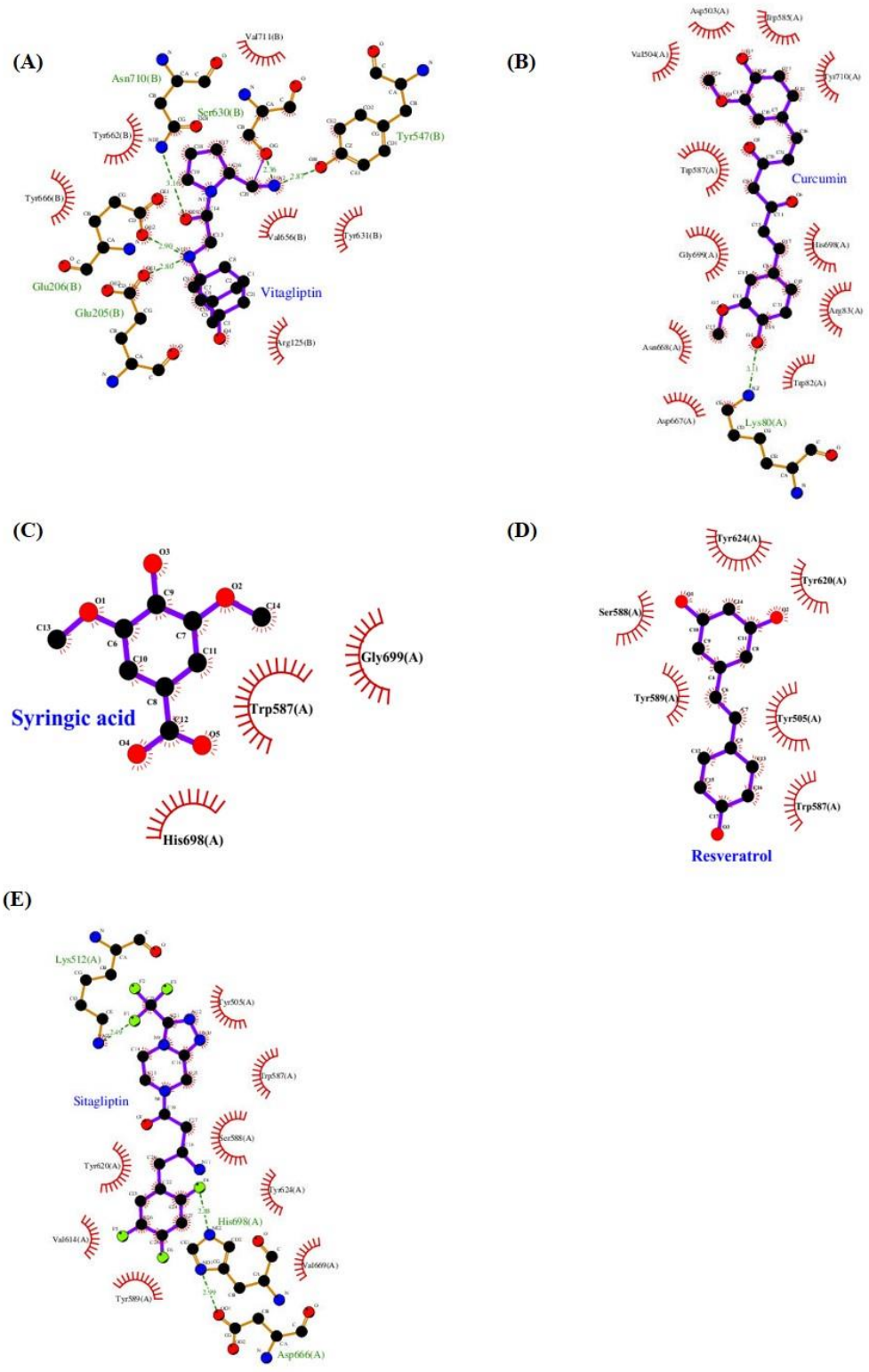


Figure 1. Structure of DPP IV active site and scheme of natural compounds binding to the active site of DPP IV. Simulation of (A) DPP IV active site co-complexed with vitagliptin (PDB ID: 3w2t)[40], (B) curcumin, (C) syringic acid, (D) resveratrol, and (E) DPP IV inhibitor (sitagliptin) binding to DPP IV active site. Selected the new DPP IV inhibitor by virtual screening was found from screening compound binding with the active site of DPP IV.