



Figure S1. Effect of protopine on HepG2 cell viability. Cell viability of protopine on HepG2 cells. HepG2 cells were incubated for 24 h with various concentrations 0-50μM protopine. Results are expressed in percentage of non-treated control. Data are expressed as the mean \pm SD of three times experiments. ** $p < 0.01$ and *** $p < 0.001$ compared to non-treated.

Table S1. Antibody used for western blot analysis

| Name | Company | Source | Molecular Weight(kDa) | Dilution for WB |
|------------------|-----------|--------|-----------------------|-----------------|
| β -actin | sc-47778 | Mouse | 45 | 1:3000 |
| I- κ B | 4812S | Rabbit | 39 | 1:1000 |
| p- I- κ B | 2859S | Rabbit | 39 | 1:1000 |
| NF- κ B | 8242S | Rabbit | 65 | 1:1000 |
| COX-2 | sc-376861 | Mouse | 72 | 1:1000 |
| MMP-9 | sc-13520 | Mouse | 92 | 1:1000 |
| ERK | 4695S | Rabbit | 42 | 1:1000 |
| p-ERK | 4370S | Rabbit | 42 | 1:1000 |
| JNK | 9252S | Rabbit | 48 | 1:1000 |
| p-JNK | 4668S | Rabbit | 48 | 1:1000 |
| p38 | 9212s | Rabbit | 40 | 1:1000 |
| p-p38 | 4511S | Rabbit | 40 | 1:1000 |

Table S2. PCR primers used for quantitative real-time PCR

| Gene | | Sequence (5'~3') | Annealing Temperature(°C) |
|------------------|---------|---------------------------|------------------------------|
| MMP-9 (Human) | Forward | GCTGCCTGTCGGTGAGAT TGG | 65.3 |
| MMP-9 (Human) | Reverse | TGGTCCTGGTGCTCCTGG TG | 64.6 |
| GAPDH (Human) | Forward | AGCCTTCTCCATGGTCGT GA | 60.5 |
| GAPDH (Human) | Reverse | CGGAGTCAACGGATTGG TC | 60.5 |