Electronic Supplementary Material (ESI) for RSC Advances.

SUPPLEMENTAL INFORMATION

Vulpinic acid contributes to the cytotoxicity of *Pulveroboletus ravenelii* to human cancer cells by inducing apoptosis

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Inventory of supplemental information

Supplemental Figure 1. Representative bright-field images of human lung adenocarcinoma, pancreatic ductal adenocarcinoma and hepatocellular carcinoma cell lines treated with four different fractions prepared from the MeOH extract of *P. ravenelii*.

Supplemental Figure 2. Representative immunofluorescence images of TUNEL staining in human lung adenocarcinoma, pancreatic ductal adenocarcinoma and hepatocellular carcinoma cell lines treated with MeOH extract of *P. ravenelii* and its fractions.

Supplemental Table 1. IC_{50} values (mg/ml) of four different fractions from the MeOH extract of *P. ravenelii* in human cancer cell lines.

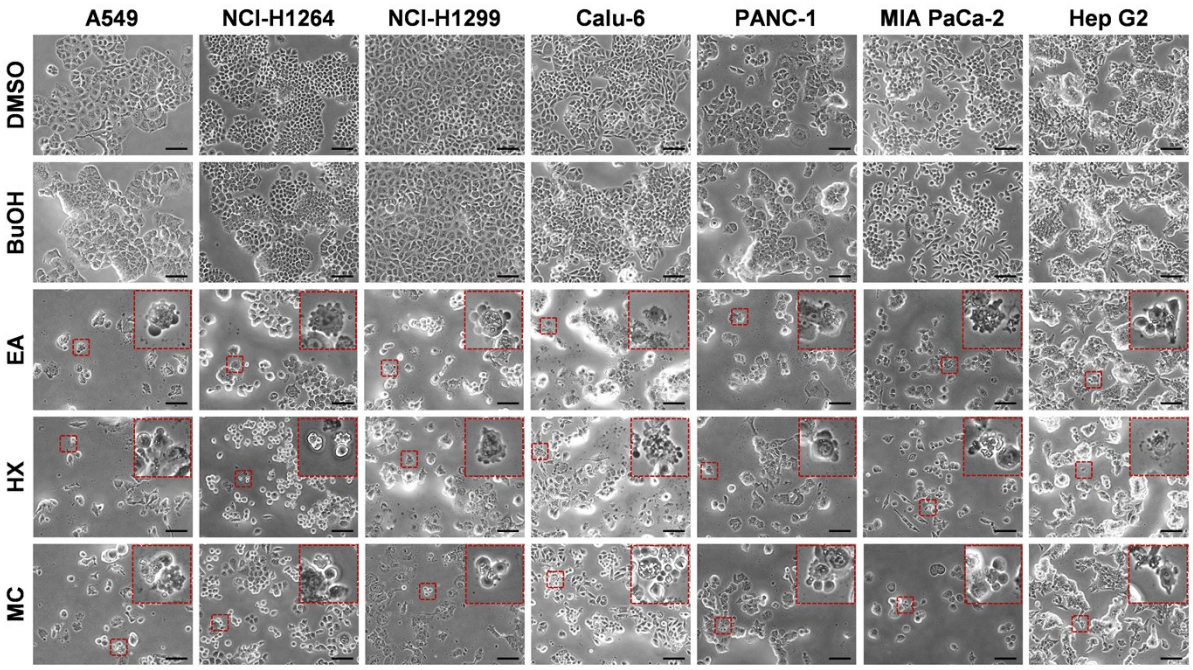
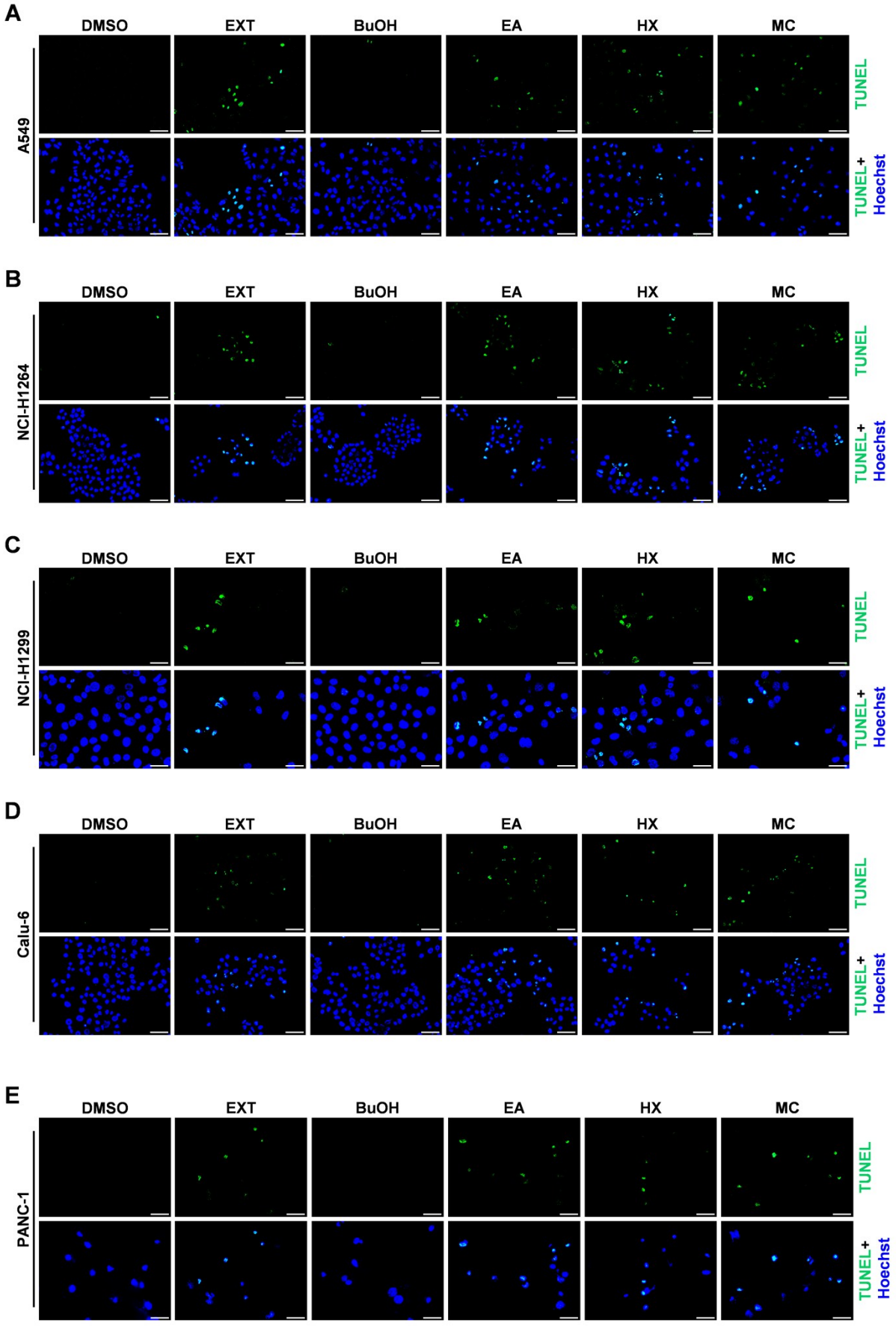


Fig. S1. Representative bright-field images of human lung adenocarcinoma, pancreatic ductal adenocarcinoma and hepatocellular carcinoma cell lines treated with four different fractions prepared from the *P. ravenelii* MeOH extract. The images were taken at 200ᘓ total magnification from the human cancer cells treated with the indicated fractions of the MeOH extract *P. ravenelii* at 120 μg/ml concentration or 0.12% DMSO in growth media as vehicle controls for 48hrs using a bright-field microscope. Magnified regions are shown as insets. Scale bar: 100 μm.


A
DMSO
EXT
BuOH
EA
HX
MC
A549
TUNEL
TUNEL+ Hoechst
B
NCI-H1264
C
NCI-H1299
D
Calu-6
E
PANC-1

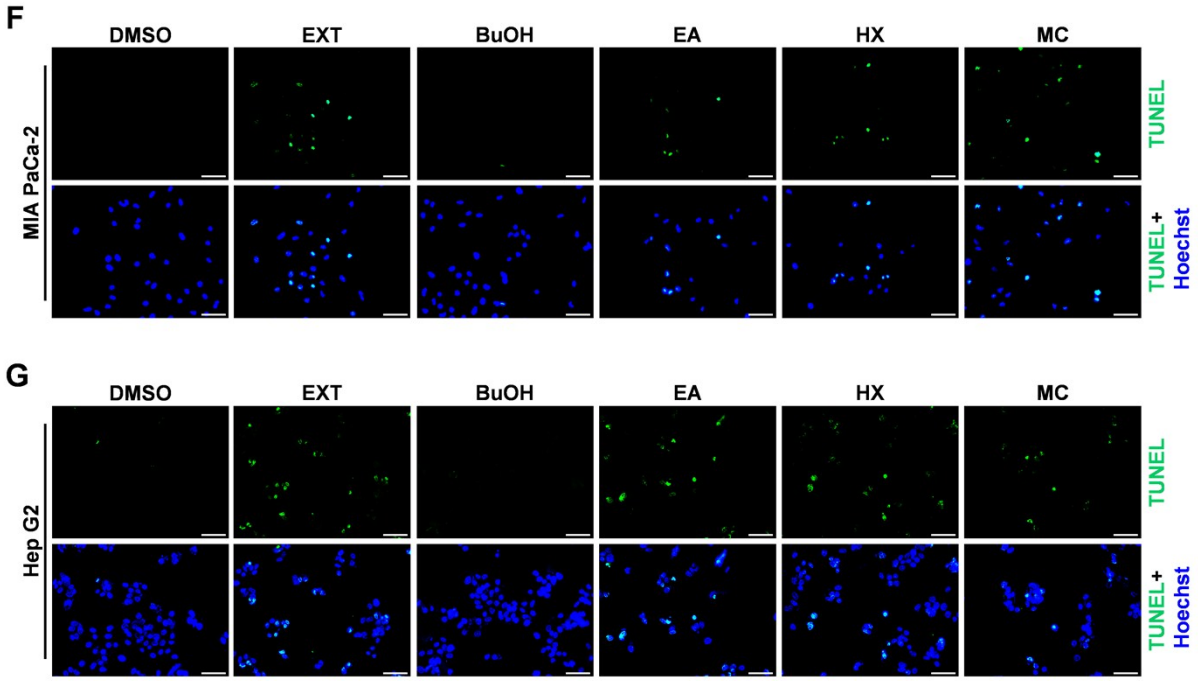


Fig. S2. Representative immunofluorescence images of TUNEL staining in human lung adenocarcinoma, pancreatic ductal adenocarcinoma and hepatocellular carcinoma cell lines treated with MeOH extract of *P. ravenelii* and its fractions. (A-G) Representative fluorescence images (400ℱ total magnification) of A549 (A), NCI-H1264 (B), NCI-H1299 (C), Calu-6 (D), PANC-1 (E), MIA PaCa-2 (F) and Hep G2 (G) cells stained for TUNEL (green) and Hoechst (blue) after treatment with the MeOH extract of *P. ravenelii* (EXT) and its fractions, EA, HX and MC, at IC_{50} concentrations for 48 hrs. Cells treated with 0.15% DMSO in growth media or BuOH fraction at 150 μg/ml were also stained for TUNEL as negative controls. Scale bar: 50 μm.

Table S1. IC_{50} values (mg/ml) of four different fractions from the MeOH extract of *P. ravenelii* in human cancer cell lines.

Fraction	Human cancer cell lines						
	A549	NCI-H1264	NCI-H1299	Calu-6	PANC-1	MIA PaCa-2	Hep G2
BuOH	ND[a]	ND	ND	ND	ND	ND	ND
EA	66.0 ± 0.1[b]	111.5 ± 0.9	91.7 ± 1.8	67.0 ± 3.0	104.6 ± 2.2	84.4 ± 1.3	146.2 ± 0.2
HX	45.8 ± 3.0	39.6 ± 0.8	56.4 ± 1.2	60.8 ± 1.0	133.3 ± 6.3	40.4 ± 1.0	83.6 ± 1.6
MC	95.3 ± 8.6	107.4 ± 2.6	131.6 ± 1.3	120.0 ± 0.8	148.6 ± 2.9	106.6 ± 1.5	131.3 ± 2.7

[a] ND, not determined.

[b] Values are the mean ± SEM of triplicate determinations.