

Supplementary Information

Antiproliferative Activity of *Pyracantha* and *Paullinia* Plant Extracts on Aggressive Breast and Hepatocellular Carcinoma Cells

Neha Kaushik ^{1,*}, Hyeonyeong Yang ¹, SungRyong Jeong ¹, Nagendra Kumar Kaushik ², Pradeep Bhartiya ², Linh Nhat Nguyen ², Eun Ha Choi ² and June Hyun Kim ^{1,*}

¹ College of engineering, Department of Biotechnology, University of Suwon, Hwaseong, 18323, Korea; neha.bioplasma@suwon.ac.kr (N.K.), hyhs9721@suwon.ac.kr (H.Y.), 15027030@suwon.ac.kr (S.J.), jk8199@suwon.ac.kr (J.H.K.)

² Plasma Bioscience Research Center/Applied Plasma Medicine Center, Department of Electrical and Biological Physics, Kwangwoon University, Seoul 01897, Korea.; kaushik.nagendra@kw.ac.kr (N.K.K.), pradeepbhartiya@kw.ac.kr (P.B.), linhnguyen@kw.ac.kr (L.N.N.), ehchoi@kw.ac.kr (E.H.C.)

* Correspondence: jk8199@suwon.ac.kr (J.H.K.) and neha.bioplasma@suwon.ac.kr (N.K.)

Table S1. Cytotoxicity (IC₅₀ values µg/ml) for eight plant extracts against MDA-MB231 and HEPG2 cancer cell line calculated at 72 hr (n = 3) using GraphPad prism software based on fit spline smoothing curve fitting function.

Plant extracts	IC ₅₀ values (µg/ml)	
	MDA-MB231	HEPG2
<i>Paullinia cupana</i>	43.1±10.69	32.57±7.60
<i>Saururus chinensis</i>	47.46±5.78	42.50±7.58
<i>Sorbus commixta</i>	45.5±22.90	33.50±5.42
<i>Quercus salicina</i>	56.00±15.61	34.44±14.95
<i>Pyracantha angustifolia</i>	21.91±2.10	28.41±4.53
<i>Ficus erecta</i>	47.93±17.92	43.59±13.2
<i>Colocasia esculenta</i>	49.3±11.53	39.46±7.29
<i>Delonix regia</i>	76.08±18.96	34.59±3.45

Data is presented as mean ± SD of IC₅₀ (µg/ml) from three independent experiments.

Table S2. Effects of Pyracantha and Paullinia plant extracts on the cell cycle of cancer cell lines MDA-MB231 and HEPG2. Percentage of cancer cells in the sub-G1, G0/G1, S and G2/M phase were calculated using FACS suite software.

MDA-MB231	Sample groups	Sub-G1 (Mean±SD)	G0/G1 (Mean±SD)	S (Mean±SD)	G2/M (Mean±SD)
	Ctrl	9.18±2.1	58.84±1.0	12.00±2.8	19.85±0.6
	40µg/ml Pyracantha	11.84±0.4	53.64±4.5	15.59±0.8	18.57±1.1
	320µg/ml Pyracantha	13.59±1.2	54.21±0.7	12.40±1.9	19.03±2.3
	40µg/ml Paullinia	9.39±3.2	55.60±0.3	14.06±0.4	20.55±5.1
	320µg/ml Paullinia	16.09±0.8	48.58±8.7	12.96±7.7	22.34±7.8

HEPG2	Sample groups	Sub-G1 (Mean±SD)	G0/G1 (Mean±SD)	S (Mean±SD)	G2/M (Mean±SD)
	Ctrl	8.26±0.4	45.26±2.3	16.59±1.3	29.17±1.2
	40µg/ml Pyracantha	24.82±1.7	28.97±1.6	6.90±0.9	38.76±3.4
	320µg/ml Pyracantha	7.88±0.9	38.86±2.2	5.86±1.9	46.81±2.1
	40µg/ml Paullinia	11.17±1.8	33.76±4.0	6.08±3.6	48.24±5.5
	320µg/ml Paullinia	5.57±2.1	35.25±6.3	7.39±10.3	51.48±7.1

Figure S1. Effects of Pyracantha and Paullinia plant extracts on the cell viability of HEPG2 cancer cells in presence of H₂O₂ treatment (50µM concentration). *p < 0.05.

