Delayed triggering of estrogen induced apoptosis that contrasts with paclitaxel induced breast cancer cell death.

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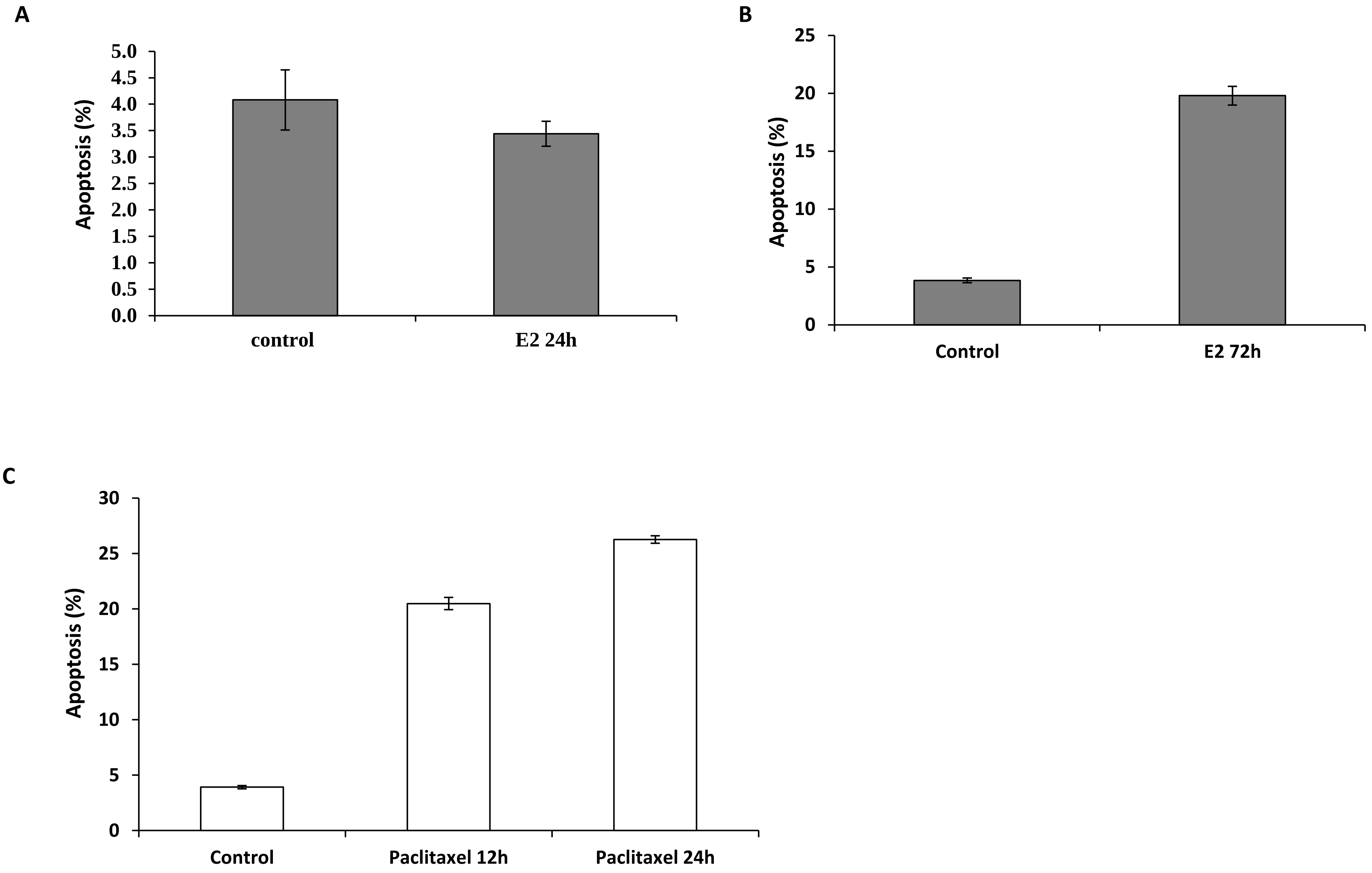

Figure S1. Annexin v analysis of apoptotic effects of E_2 and paclitaxel
MCF7:5C cells were treated with control or E_2(1nM) for **(A)** 24h and **(B)** 72h or **(C)** paclitaxel (1µM) for 12h and 24h and then stained with annexin v-FITC and propidium iodide and analysed by flow cytometry. All the data shown were representative of at least three separate experiments with similar results.

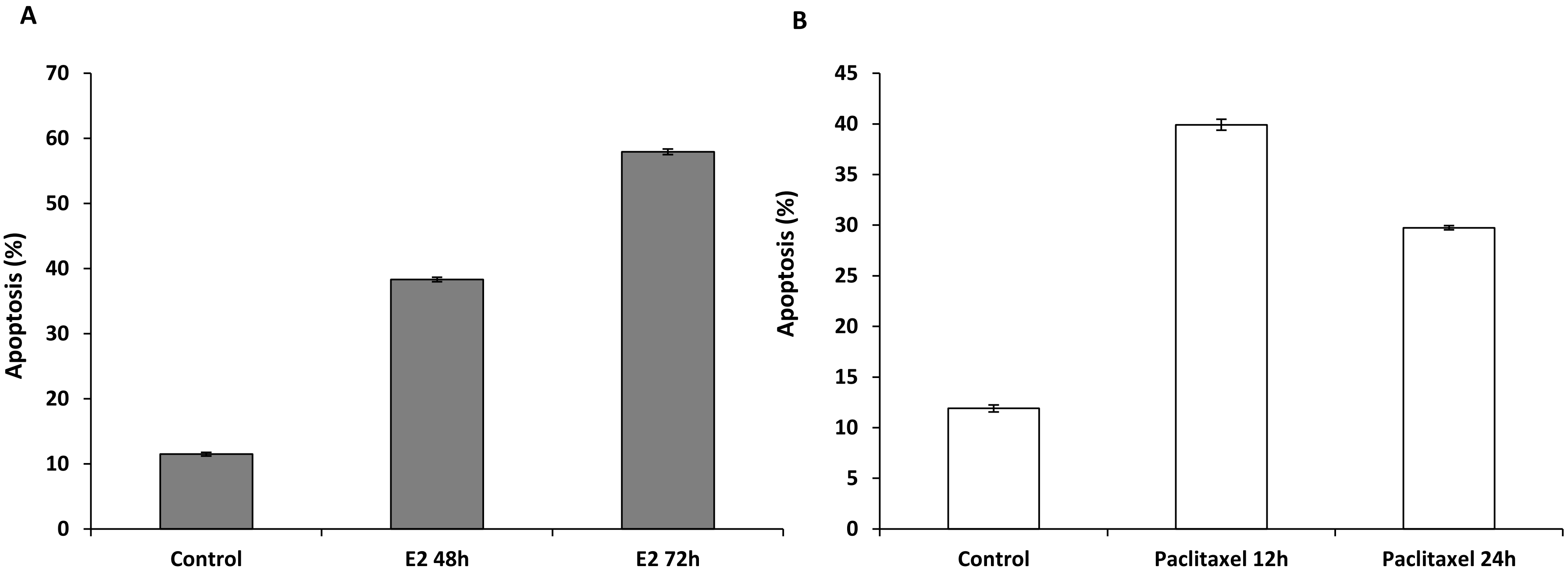

Figure S2. Analysis of apoptotic effects of E_2 and paclitaxel
MCF7:5C cells were treated with control or **(A)** E_2(1nM) for 48h and 72h or **(B)** paclitaxel (1µM) for 12h and 24h and then stained with nucleic acid dye YO-PRO-1 and propidium iodide and analysed by flow cytometry. All the data shown were representative of at least three separate experiments with similar results.

Supplementary tables

E2 24h				4OHT 24h				E2 + 4OHT 24h			
Gene Symbol	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**	**Gene Symbol**	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**	**Gene Symbol**	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**
ANXA1	2.6642	AZU1	-2.8281	BTK	4.5831	FAIM2	-5.3749	BTK	4.2488	FAIM2	-3.8558
BTK	4.254	BAD	-3.0409	CD2	15.8532	PIK3R2	-2.9528	CD2	5.2187	LCK	-2.912
CCL2	2.9912	BAG1	-3.1635	SPN	17.1101			SPN	22.3084	MKL1	-2.661
CD2	4.8261	BBC3	-2.6119	TNFRSF8	84.6702			TLR2	2.7401	PCBP4	-2.8633
IGF1R	2.9459	BCL2L10	-2.5516	TNFSF14	47.0314			TNFRSF8	85.0313	PIK3R2	-2.9231
NME5	4.8002	BCL3	-3.6406					TNFSF14	45.1955		
PMAIP1	3.135	BIK	-11.5845								
SPN	12.0116	CARD14	-2.7052								
TLR2	3.2626	CASP1	-2.5243								
TNFRSF8	62.9856	CASP10	-4.2551								
TNFSF14	33.4653	CASP9	-3.9836								
TPD52L1	2.845	CD5	-10.9716								
		CDKN1A	-2.7118								
		DDAH2	-2.6247								
		FAIM2	-30.8131								
		GRM4	-2.8359								
		IER3	-3.2835								
		IFI6	-2.7991								
		INHA	-3.0531								
		LCK	-5.0081								
		MOAP1	-3.1249								
		MX1	-2.9387								
		NOX5	-3.2371								
		NUPR1	-2.8728								
		PAX7	-58.5159								
		PCBP4	-3.1573								
		PIK3R2	-4.2368								
		PRODH	-3.6534								
		PROP1	-3.1935								
		RARG	-2.6272								
		SOCS3	-5.2735								
		STAT1	-2.5034								
		STAT5A	-2.887								
		TIMP3	-7.8453								
		TNFSF10	-3.8052								
		TP73	-2.7885								
		TSC22D3	-3.2667								

Table S1. Gene list of E2 (1nM) regulated apoptotic genes in MCF7:5C cells at 24h of treatment versus vehicle treatment in comparison to 4OHT. Apoptotic genes regulated by E2 and 4OHT after 24 h treatment were determined using RT-profiler assay kits for apoptosis. Data values include the genes which were at least 2.5 fold up-regulated or down-regulated relative to the vehicle treatment. The genes which achieve the statistical significance of p value of 0.05 were selected for creating this gene list.

E2 36h				4OHT 36h				E2 + 4OHT 36h			
Gene Symbol	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**	**Gene Symbol**	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**	**Gene Symbol**	**Fold Upregulation**	**Gene Symbol**	**Fold Downregulation**
ANXA1	13.087	AIFM2	-3.2919	ANXA1	2.5671	FAIM2	-4.7651	ANXA1	3.1103	PAX7	-3.215
BCL2L11	2.5359	AKT1	-2.5341	SOCS2	8.5236	PRODH	-2.5397	SOCS2	7.4229		
CEBPB	3.8483	ALOX15B	-3.3452			TIMP3	-4.8255				
CEBPG	3.5422	ATF5	-2.6333			TP73	-6.1608				
DAPK1	2.9495	BAD	-2.9942								
DDIT3	4.674	BAG1	-4.0335								
ERN1	3.6467	BAG3	-2.9004								
LGALS1	3.8284	NKX3-2	-3.3439								
NGFR	3.8614	BIK	-4.4621								
NRG2	3.703	BIRC8	-4.7179								
PMAIP1	4.0604	CD2	-4.2265								
SOCS2	13.2718	CD5	-3.5601								
TP63	20.7639	CDKN1A	-2.895								
		CRYAB	-5.5114								
		DHCR24	-3.0666								
		EDAR	-3.3839								
		FAIM2	-17.3873								
		HSPA1B	-4.0028								
		IER3	-3.0545								
		IFI6	-3.1681								
		NOX5	-3.4359								
		PAX7	-98.7112								
		PCBP4	-2.7309								
		PLEKHF1	-3.261								
		PRODH	-4.1825								
		PROP1	-3.5416								
		S100B	-3.2727								
		SIPA1	-5.8335								
		SOCS3	-8.0719								
		SPN	-2.7479								
		STAT1	-2.5343								
		TIMP3	-14.3925								
		TNFRSF10D	-3.0312								
		TNFRSF9	-2.526								
		TNFSF10	-7.3991								
		TNFSF14	-5.6928								
		TNFSF18	-3.5206								
		TP73	-4.195								

Table S2. Gene list of E2 (1nM) regulated apoptotic genes in MCF7:5C cells at 36h of treatment versus vehicle treatment in comparison to 4OHT. Apoptotic genes regulated by E2 and 4OHT after 36 h treatment were determined using RT-profiler assay kits for apoptosis. Data values include the genes which were at least 2.5 fold up-regulated or down-regulated relative to the vehicle treatment. The genes which achieve the statistical significance of p value of 0.05 were selected for creating this gene list.

E2 48h				4OHT 48h				E2 + 4OHT 48h			
Gene Symbol	Fold Regulation	Gene Symbol	Fold Down regulation	Gene Symbol	Fold Upregulation	Gene Symbol	Fold Downregulation	Gene Symbol	Fold Upregulation	Gene Symbol	Fold Downregulation
ANXA1	57.3851	BAD	-2.5023	LTA	2.6067	CASP1	-3.956	DDIT3	3.8055	CASP1	-3.8153
BCL2L10	11.1112	BAG1	-2.7721	SFN	15.8793	FAIM2	-3.2491	SFN	9.1735	FAIM2	-4.6224
BCL2L11	6.1039	BAG3	-2.6497	SOCS2	6.057	PAK7	-2.5648	SOCS2	6.901	PAK7	-3.2137
BCL6	3.0659	BIK	-4.2268	SPP1	3.6436	PAX7	-4.2314			PAX7	-4.9887
CARD6	5.1788	CASP1	-8.1698	TPD52L1	3.0662	TIMP3	-7.6083			SOCS3	-2.682
CASP14	4.1381	DHCR24	-4.8597							TIMP3	-4.8827
CEBPB	5.3823	FAIM2	-9.287								
CEBPG	4.403	IER3	-3.2977								
DAPK1	10.1625	IFI16	-2.8643								
DAPK2	3.3865	IFI6	-3.108								
DBP	3.2951	NOL3	-3.4184								
DDIT3	8.5521	PAK7	-3.222								
ERN1	6.268	PAX7	-32.2886								
LTA	8.9147	PDCD6	-2.8903								
LTB	2.8441	PLEKHF1	-3.4435								
FAS	3.1267	SOCS3	-4.8034								
HRK	3.3396	TIMP3	-35.754								
IGF1R	5.1589	TNFSF10	-3.1145								
IL18	2.7084										
JMY	7.5993										
LGALS1	18.2555										
MYC	2.8013										
NDUFA13	7.2126										
NGFR	6.8376										
PMAIP1	7.6316										
PRKCE	3.0529										
SFN	9.2554										
SOCS2	9.5122										
SPP1	5.5017										
TLR2	4.2949										
TNF	4.228										
TNFAIP3	3.0417										
TNFRSF21	2.5535										
TP53	2.612										
TP63	90.3002										
TPD52L1	4.1153										
ZAK	3.3906										

Table S3. Gene list of E2 (1nM) regulated apoptotic genes in MCF7:5C cells at 48h of treatment versus vehicle treatment in comparison to 4OHT. Apoptotic genes regulated by E2 and 4OHT after 48 h treatment were determined using RT-profiler assay kits for apoptosis. Data values include the genes which were at least 2.5 fold up-regulated or down-regulated relative to the vehicle treatment. The genes which achieve the statistical significance of p value of 0.05 were selected for creating this gene list.