

**The effect of apigenin and chemotherapy combination treatments on apoptosis-related genes and proteins in acute leukaemia cell lines**

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## Supplementary Materials

<b>Supplementary Table 1: Apoptosis Related Genes List of the TaqMan® Array Human Cellular Apoptosis</b>			
<b>#</b>	<b>List of Apoptotic Genes</b>	<b>#</b>	<b>List of Apoptotic Genes</b>
1	AIFM1	47	NFKB2
2	AKT1	48	NFKBIA
3	APAF1	49	NFKBIB
4	ATM	50	NFKBIE
5	BAD	51	P53AIP1
6	BAK1	52	PARP1
7	BAX	53	PARP2
8	BBC3	54	PARP3
9	BCL2	55	PARP4
10	BCL2L1/ BCLX	56	PIK3CA
11	BCL2L11	57	PIK3CB
12	BID	58	PIK3CD
13	BIRC2	59	PIK3R1
14	CASP3	60	PIK3R2
15	CASP7	61	PMAIP1
16	CASP8	62	PPID
17	CASP9	63	PRKCA
18	CDKN2A	64	PRKCB
19	CFLAR	65	PRKCD
20	CHEK2	66	PRKCE
21	CHUK	67	PRKCZ
22	CYT C	68	REL
23	DAPK3	69	RELA
24	DAXX	70	RELB
25	DFFA	71	RIPK1
26	DFFB	72	RPS6KA1
27	SMAC/DIABLO	73	RPS6KA2
28	EGFR	74	RPS6KA3
29	ENDOG	75	RPS6KA4
30	F2RL3	76	RPS6KA5
31	FADD	77	SLC25A4
32	FAS/CD95	78	SLC25A5
33	FASLG	79	SLC25A6
34	HRTA2/OMI	80	TGFB1
35	IGF1	81	TNF
36	IGF1R	82	TNFRSF10A/ TRAIL R1/DR4/
37	IKBKB	83	TNFR1/TNFRSF1A
38	IKBKE	84	TNFSF10
39	IKBKG	85	TNFSF12
40	IL2	86	TP53
41	IL6	87	TRADD
42	KDR	88	TRAF2
43	KIT	89	TSPO
44	MDM2	90	VDAC1
45	MET	91	VDAC2
46	NFKB1	92	VDAC3

<b>Supplementary Table 2: Apoptosis Related Protein List of the Proteome Profiler™ Human Apoptosis Array</b>			
<b>#</b>	<b>List of Apoptotic Proteins</b>	<b>#</b>	<b>List of Apoptotic Proteins</b>
<b>1</b>	BAD	<b>19</b>	HO-2/HMOX-2
<b>2</b>	BAX	<b>20</b>	HSP27
<b>3</b>	BCL2	<b>21</b>	HSP60
<b>4</b>	BCLX	<b>22</b>	HSP70
<b>5</b>	Pro-CASP3	<b>23</b>	HRTA2/OMI
<b>6</b>	Cleaved-CASP3	<b>24</b>	Livin
<b>7</b>	Catalase	<b>25</b>	PON2
<b>8</b>	cIAP-1	<b>26</b>	P21/CIP1/CDKNA1
<b>9</b>	cIAP-2	<b>27</b>	P27/Kip1
<b>10</b>	Claspin	<b>28</b>	Phospho-P53 (S15)
<b>11</b>	Clusterin	<b>29</b>	Phospho-P53 (S46)
<b>12</b>	Cytochrom C	<b>30</b>	Phospho-P53 (S392)
<b>13</b>	TRAIL R1/DR4	<b>31</b>	Phospho-P53 (S635)
<b>14</b>	TRAIL R1/DR5	<b>32</b>	SMAC/DIABLO
<b>15</b>	FADD	<b>33</b>	Survivin
<b>16</b>	FAS/CD95	<b>34</b>	TNFR1/TNFRSF1A
<b>17</b>	HIF-1 $\alpha$	<b>35</b>	XIAP
<b>18</b>	HO-1/HMOX-1	–	–

**Supplementary Table 3:  
The Statistical Analysis of AP and ETP Alone and in Combination Treatments  
in THP-1 Myeloid Leukaemia Cells (P ≤ 0.05)**

Apoptotic Genes and Proteins		Treatment alone	Treatment alone	Combination Treatment (AP+ETP)		
		AP 10µM vs VC	ETP 0.01µM vs VC	AP+ETP vs VC	AP+ETP vs AP 10µM	AP+ETP vs ETP 0.01µM
BCL2	Gene	Not significant P = 0.0563	Significant P = 0.0063	Significant P < 0.0001	Significant P < 0.0001	Significant P = 0.0063
	Protein	Not significant P = 0.0574	Significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0011	Not significant P = 0.0574
BCLX	Gene	Not significant P = 0.0616	Not significant P = 0.0563	Significant P = 0.0007	Significant P < 0.0001	Not significant P = 0.0578
	Protein	Not significant P = 0.0648	Not significant P = 0.0574	Not significant P = 0.0574	Significant P = 0.0011	Not significant P = 0.0548
BAD	Gene	Significant P < 0.0001	Not significant P = 0.0633	Not significant P = 0.0567	Significant P = 0.0133	Not significant P = 0.0578
	Protein	Significant P = 0.0048	Not significant P = 0.0554	Not significant P = 0.0574	Significant P = 0.0474	Significant P = 0.0048
BAX	Gene	Significant P < 0.0001	Not significant P = 0.0563	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0075	Not significant P > 0.9999	Significant P = 0.0151	Significant P = 0.0278	Significant P = 0.0151
CYT C	Gene	Significant P < 0.0001	Not significant P = 0.0603	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
HTRA2/OMI	Gene	Significant P = 0.0117	Not significant P = 0.0546	Significant P = 0.0081	Not significant P = 0.8089	Significant P = 0.0004
	Protein	Significant P = 0.0105	Not significant P = 0.1778	Significant P = 0.0075	Not significant P > 0.9999	Significant P = 0.0151
SMAC/DIABLO	Gene	Significant P = 0.0063	Not significant P = 0.0560	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0474	Not significant P = 0.0673	Significant P = 0.0048	Significant P = 0.0474	Significant P = 0.0011
TRAILR1/DR4	Gene	Significant P = 0.0003	Not significant P = 0.0616	Significant P < 0.0001	Not significant P = 0.0578	Significant P = 0.0007
	Protein	Significant P = 0.0011	Not significant P = 0.0544	Significant P = 0.0048	Significant P = 0.0474	Not significant P = 0.0574
TNFR1/TNFRSF1A	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0474	Not significant P = 0.0564	Significant P = 0.0048	Significant P = 0.0474	Significant P = 0.0011
FAS/CD95	Gene	Significant P = 0.0126	Not significant P = 0.5651	Significant P = 0.0094	Not significant P = 0.8465	Significant P = 0.0039
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Not significant P = 0.0574	Significant P = 0.0048
FADD	Gene	Significant P = 0.0006	Not significant P = 0.0546	Significant P = 0.0004	Not significant P = 0.8089	Significant P = 0.0081
	Protein	Significant P = 0.0011	Not significant P = 0.0568	Not significant P = 0.0578	Significant P = 0.0474	Not significant P = 0.0574
CASP-8	Gene	Significant P = 0.0052	Not significant P = 0.5651	Significant P = 0.0039	Not significant P = 0.8465	Significant P = 0.0094
CASP-9	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
CASP-3	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Not significant P = 0.0604	Significant P = 0.0048

**Colour Key:** Black shows no significant change, green shows a significant increase, red shows a significant decrease in expression of apoptotic genes/proteins.

**Supplementary Table 4:  
The Statistical Analysis of AP and CYCLO Alone and in Combination Treatments  
in THP-1 Myeloid Leukaemia Cells (P ≤ 0.05)**

Apoptotic Genes and Proteins		Treatment alone	Treatment alone	Combination Treatment (AP+CYCLO)		
		AP 10µM vs VC	CYCLO 2µM vs VC	AP+CYCLO vs VC	AP+CYCLO vs AP 10µM	AP+CYCLO vs CYCLO 2µM
BCL2	Gene	Not significant P = 0.0563	Significant P = 0.0063	Significant P < 0.0001	Significant P < 0.0001	Not significant P = 0.0563
	Protein	Not significant P = 0.0574	Significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0011	Not significant P = 0.0574
BCLX	Gene	Not significant P = 0.0616	Significant P = 0.0147	Significant P = 0.0047	Significant P = 0.0003	Not significant P = 0.4609
	Protein	Not significant P = 0.0648	Significant P = 0.0048	Not significant P = 0.0584	Significant P = 0.0048	Not significant P = 0.0574
BAD	Gene	Significant P < 0.0001	Significant P = 0.0063	Not significant P = 0.0563	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Significant P = 0.0474	Not significant P = 0.0574	Significant P = 0.0474	Significant P = 0.0048
BAX	Gene	Significant P < 0.0001	Not significant P = 0.4609	Significant P = 0.0006	Significant P = 0.0486	Significant P = 0.0003
	Protein	Significant P = 0.0075	Not significant P > 0.9999	Significant P = 0.0151	Significant P = 0.0178	Significant P = 0.0151
CYT C	Gene	Significant P < 0.0001	Not significant P = 0.4609	Significant P = 0.0003	Significant P = 0.0486	Significant P = 0.0006
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
HTRA2/OMI	Gene	Significant P = 0.0117	Not significant P = 0.5108	Significant P = 0.0018	Not significant P = 0.147	Significant P = 0.0007
	Protein	Significant P = 0.0105	Not significant P = 0.0574	Significant P = 0.0048	Not significant P = 0.0567	Significant P = 0.0011
SMAC/DIABLO	Gene	Significant P = 0.0063	Not significant P = 0.0563	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0474	Not significant P = 0.0574	Significant P = 0.0048	Significant P = 0.0474	Significant P = 0.0011
TRAILR1/DR4	Gene	Significant P = 0.0003	Not significant P = 0.0586	Significant P = 0.0047	Not significant P = 0.4609	Significant P = 0.0003
	Protein	Significant P = 0.0011	Not significant P = 0.0573	Significant P = 0.0048	Significant P = 0.0048	Significant P = 0.0474
TNFR1/TNFRSF1A	Gene	Significant P < 0.0001	Significant P = 0.0033	Significant P = 0.0092	Not significant P = 0.2441	Not significant P = 0.4929
	Protein	Significant P = 0.0474	Not significant P = 0.145	Not significant P = 0.145	Not significant P = 0.4818	Not significant P > 0.9999
FAS/CD95	Gene	Significant P = 0.0126	Not significant P = 0.0563	Significant P < 0.0001	Not significant P = 0.0563	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
FADD	Gene	Significant P = 0.0006	Not significant P = 0.0563	Significant P < 0.0001	Not significant P = 0.0563	Significant P < 0.0001
	Protein	Significant P = 0.0011	Not significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0048	Significant P = 0.0011
CASP-8	Gene	Significant P = 0.0052	Not significant P = 0.0572	Significant P = 0.0005	Not significant P = 0.2029	Significant P = 0.0158
CASP-9	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
CASP-3	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Not significant P = 0.0574	Significant P = 0.0048

**Colour Key:** Black shows no significant change, green shows a significant increase, red shows a significant decrease in expression of apoptotic genes/proteins.

**Supplementary Table 5:  
The Statistical Analysis of AP and ETP Alone and in Combination Treatments  
in Jurkat Lymphoid Leukaemia Cells ( $P \leq 0.05$ )**

Apoptotic Genes and Proteins		Treatment alone	Treatment alone	Combination Treatment (AP+ETP)		
		AP 50 $\mu$ M vs VC	ETP 0.01 $\mu$ M vs VC	AP+ETP vs VC	AP+ETP vs AP 50 $\mu$ M	AP+ETP vs ETP 0.01 $\mu$ M
BCL2	Gene	Not significant P = 0.7109	Not significant P = 0.8067	Significant P = 0.0476	Significant P = 0.0476	Significant P = 0.0445
	Protein	Not significant P = 0.4474	Not significant P = 0.1776	Significant P = 0.0048	Significant P = 0.0011	Not significant P = 0.0574
BCLX	Gene	Not significant P = 0.4609	Not significant P = 0.4676	Significant P = 0.0115	Significant P = 0.02	Significant P = 0.0158
	Protein	Not significant P > 0.9999	Not significant P = 0.36	Significant P = 0.0011	Significant P = 0.0048	Significant P = 0.0474
BAD	Gene	Significant P = 0.0081	Not significant P = 0.5403	Significant P = 0.0037	Not significant P = 0.3175	Significant P = 0.0016
	Protein	Significant P = 0.0474	Not significant P = 0.0674	Not significant P = 0.1011	Not significant P = 0.0773	Significant P = 0.0048
BAX	Gene	Significant P = 0.0047	Significant P = 0.0147	Significant P = 0.0001	Significant P = 0.0147	Significant P = 0.0047
	Protein	Significant P = 0.0474	Not significant P = 0.0774	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
CYT C	Gene	Not significant P = 0.0663	Not significant P = 0.1573	Significant P = 0.0001	Significant P = 0.0047	Significant P = 0.0147
	Protein	Not significant P = 0.0774	Not significant P = 0.0705	Significant P = 0.005	Significant P = 0.008	Significant P = 0.008
HTRA2/OMI	Gene	Not significant P = 0.647	Not significant P = 0.8089	Significant P = 0.0001	Significant P = 0.0117	Significant P = 0.0081
	Protein	Not significant P = 0.0674	Not significant P = 0.0594	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
SMAC/DIABLO	Gene	Significant P = 0.0063	Not significant P = 0.4609	Significant P = 0.0006	Significant P = 0.0486	Significant P = 0.0003
	Protein	Significant P < 0.0001	Not significant P = 0.0674	Significant P = 0.0011	Significant P = 0.0474	Significant P = 0.0048
TRAILR1/DR4	Gene	Significant P < 0.0001	Not significant P = 0.0616	Significant P < 0.0001	Not significant P = 0.0578	Significant P = 0.0007
	Protein	Significant P = 0.0474	Not significant P > 0.9999	Significant P = 0.0151	Not significant P = 0.1778	Significant P = 0.0151
TNFR1/TNFRSF1A	Gene	Significant P < 0.0001	Significant P = 0.0117	Significant P = 0.0001	Not significant P = 0.0617	Not significant P = 0.0681
	Protein	Significant P = 0.0151	Not significant P = 0.0574	Significant P = 0.0048	Not significant P = 0.0604	Significant P = 0.0011
FAS/CD95	Gene	Significant P = 0.0006	Not significant P = 0.0633	Significant P < 0.0001	Not significant P = 0.0578	Not significant P = 0.0633
	Protein	Significant P = 0.008	Not significant P = 0.0574	Significant P = 0.0474	Significant P = 0.0474	Significant P = 0.0048
FADD	Gene	Not significant P = 0.1778	Not significant P = 0.0581	Significant P = 0.0001	Not significant P = 0.0577	Significant P = 0.0481
	Protein	Not significant P = 0.1324	Not significant P = 0.0574	Significant P = 0.0048	Not significant P = 0.0674	Significant P = 0.0011
CASP-8	Gene	Significant P < 0.0001	Not significant P = 0.0546	Significant P = 0.0004	Not significant P = 0.8089	Significant P = 0.0081
CASP-9	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
CASP-3	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0574	Significant P = 0.0011	Not significant P = 0.0544	Significant P = 0.0048

**Colour Key:** Black shows no significant change, green shows a significant increase, red shows a significant decrease in expression of apoptotic genes/proteins.

**Supplementary Table 6:  
The Statistical Analysis of AP and CYCLO Alone and in Combination Treatments  
in Jurkat Lymphoid Leukaemia Cells (P ≤ 0.05)**

Apoptotic Genes and Proteins		Treatment alone	Treatment alone	Combination Treatment (AP+CYCLO)		
		AP 50µM vs VC	CYCLO 10µM vs VC	AP+CYCLO vs VC	AP+CYCLO vs AP 50µM	AP+CYCLO vs CYCLO 10µM
BCL2	Gene	Not significant P = 0.7109	Not significant P = 0.6224	Significant P = 0.0046	Significant P = 0.0047	Significant P = 0.0048
	Protein	Not significant P = 0.4474	Not significant P = 0.4474	Significant P = 0.0548	Significant P = 0.0474	Not significant P = 0.0611
BCLX	Gene	Not significant P = 0.4609	Not significant P = 0.0647	Significant P = 0.0147	Not significant P = 0.0647	Significant P = 0.0001
	Protein	Not significant P > 0.9999	Not significant P = 0.0705	Significant P = 0.0151	Significant P = 0.0151	Not significant P = 0.1778
BAD	Gene	Significant P = 0.0081	Significant P = 0.0117	Significant P = 0.0001	Significant P = 0.0117	Significant P = 0.0081
	Protein	Significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0011	Significant P = 0.0048	Significant P = 0.0474
BAX	Gene	Significant P = 0.0047	Significant P = 0.0147	Significant P = 0.0001	Significant P = 0.0147	Significant P = 0.0047
	Protein	Significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0011	Significant P = 0.0048	Significant P = 0.0474
CYT C	Gene	Not significant P = 0.0663	Significant P < 0.0001	Significant P < 0.0001	Significant P < 0.0001	Significant P = 0.0063
	Protein	Not significant P = 0.0774	Significant P = 0.0048	Significant P = 0.0011	Significant P = 0.0048	Significant P = 0.0474
HTRA2/OMI	Gene	Not significant P = 0.647	Not significant P = 0.0647	Significant P = 0.0001	Significant P = 0.0147	Significant P = 0.0047
	Protein	Not significant P = 0.0674	Not significant P = 0.0600	Significant P = 0.0048	Significant P = 0.0474	Significant P = 0.0011
SMAC/DIABLO	Gene	Significant P = 0.0063	Not significant P = 0.0705	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P < 0.0001	Not significant P = 0.1778	Significant P = 0.0151	Significant P = 0.0045	Significant P = 0.0151
TRAILR1/DR4	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0474	Significant P = 0.0048	Significant P = 0.0011	Significant P = 0.0048	Significant P = 0.0474
TNFR1/TNFRSF1A	Gene	Significant P < 0.0001	Not significant P = 0.0663	Not significant P = 0.0601	Not significant P = 0.0663	Not significant P = 0.0666
	Protein	Significant P = 0.0151	Not significant P > 0.9999	Not significant P = 0.0705	Not significant P = 0.1778	Not significant P = 0.0705
FAS/CD95	Gene	Significant P = 0.0006	Not significant P = 0.0747	Not significant P = 0.4609	Significant P = 0.0563	Not significant P = 0.0647
	Protein	Significant P = 0.008	Not significant P = 0.0705	Not significant P = 0.0754	Significant P = 0.0458	Not significant P > 0.9999
FADD	Gene	Not significant P = 0.1778	Not significant P = 0.0705	Not significant P = 0.0674	Not significant P = 0.0774	Not significant P = 0.0664
	Protein	Not significant P = 0.1324	Not significant P > 0.9999	Not significant P > 0.9999	Not significant P = 0.1324	Not significant P > 0.9999
CASP-8	Gene	Significant P < 0.0001	Not significant P = 0.0663	Significant P < 0.0001	Significant P = 0.0063	Not significant P = 0.0600
CASP-9	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
CASP-3	Gene	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001	Significant P = 0.0063	Significant P < 0.0001
	Protein	Significant P = 0.0048	Not significant P = 0.0604	Significant P = 0.0011	Not significant P = 0.0604	Significant P = 0.0048

**Colour Key:** Black shows no significant change, green shows a significant increase, red shows a significant decrease in expression of apoptotic genes/proteins.

THP-1 Acute Myeloid Leukaemia Cells												
Apoptosis-related proteins	Mitochondrial Pathway (Intrinsic)							Death Receptors Pathway (Extrinsic)				CASP3
	BAD	BAX	BCL2	BCLX	CYC	HTRA2/OMI	SMAC/DIABLO	TRAILR1/DR4	TNFR1/TNFRSF1A	FAS/D95	FADD	
VC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP 10 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
ETP 0.01 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP+ETP	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
CYCLO 2 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP+CYCLO	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●

**Supplementary Figure 1:** The array data of apoptosis-related proteins (BAD, BAX, BCL2, BCLX, CYT *c*, SMAC/ DIBALO, HTRA2/OMI, TRAILR1/DR4, TNFR1/TNFRSF1A, FAS/D95, FADD, and CASP-3) in THP-1 acute myeloid leukaemia cells treated with apigenin (AP) alone, and in combination with etoposide (ETP) and cyclophosphamide (CYCLO) at the lowest significant doses (LSDs) that induce apoptosis (determined previously in Mahbub *et al.*, 2013; 2015; 2019) for 24 h. Protein expression was analysed using a Proteome Profiler™ - Human Apoptosis Array (R & D Systems). The combination effect is highlighted in a dark green box (if there is a synergistic increase) and in the dark box (if there is a synergistic decrease).

Jurkat Acute Lymphoid Leukaemia Cells												
Apoptosis-related proteins	Mitochondrial Pathway (Intrinsic)							Death Receptors Pathway (Extrinsic)				CASP3
	BAD	BAX	BCL2	BCLX	CYC	HTRA2/OMI	SMAC/DIABLO	TRAILR1/DR4	TNFR1/TNFRSF1A	FAS/D95	FADD	
VC	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP 50 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
ETP 0.01 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP+ETP	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
CYCLO 10 $\mu$ M	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●
AP+CYCLO	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●	●●

**Supplementary Figure 2:** The array data of apoptosis-related proteins (BAD, BAX, BCL2, BCLX, CYT *c*, SMAC/ DIBALO, HTRA2/OMI, TRAILR1/DR4, TNFR1/TNFRSF1A, FAS/D95, FADD, and CASP-3) in Jurkat acute lymphoid leukaemia cells treated with apigenin (AP) alone, and in combination with etoposide (ETP) and cyclophosphamide (CYCLO) at the lowest significant doses (LSDs) that induce apoptosis (determined previously in Mahbub *et al.*, 2013; 2015; 2019) for 24 h. Protein expression was analysed using a Proteome Profiler™ - Human Apoptosis Array (R & D Systems). The combination effect is highlighted in a dark green box (if there is a synergistic increase) and in the dark box (if there is a synergistic decrease).