Table SI. Primer sequences for PCR amplification.

Genes	Abbreviations	Forward primer, 5'->3'	Reverse primer, 5'->3'
Sonic hedgehog	SHH	CTCGCTGCTGGTATGCTCG	ATCGCTCGGAGTTTCTGGAGA
Indian hedgehog	IHH	AGACCGCGACCGCAATAAG	GCCTTTGACTCGTAATACACCCA
Desert hedgehog	DHH	CACCACGCTCAGGATTCACTC	CAACCCATACTTGTTGCGGTC
Patched1	PTCH1	CCAGAAAGTATATGCACTGGCA	GTGCTCGTACATTTGCTTGGG
Smoothened	SMO	TCGAATCGCTACCCTGCTG	CAAGCCTCATGGTGCCATCT
Glioma-associated oncogene 1	GLI1	AACGCTATACAGATCCTAGCTCG	GTGCCGTTTGGTCACATGG
Glioma-associated oncogene 2	GLI2	CCCCTACCGATTGACATGCG	GAAAGCCGGATCAAGGAGATG
Glioma-associated oncogene 3	GLI3	TGGTTACATGGAGCCCCACTA	GAATCGGAGATGGATCGTAATGG
Death receptor 4	DR4	ACCTTCAAGTTTGTCGTCGTC	CCAAAGGGCTATGTTCCCATT
Death receptor 5	DR5	GCCCCACAACAAAAGAGGTC	AGGTCATTCCAGTGAGTGCTA
Factor related apoptosis ligand	FasL	CCCATTTAACAGGCAAGTCCAA	CCAGAAAGCAGGACAATTCCAT
Caspase 3	CASP3	TGGTTCATCCAGTCGCTTTGT	CCCGGGTAAGAATGTGCATAAA
Caspase 8	CASP8	TATATCCCGGATGAGGCTGACTT	TCTGCAGGGTTTCGGTAGGA
FAS associated death domain	FADD	GTGGCTGACCTGGTACAAGAG	GGTAGATGCGTCTGAGTTCCAT
Cellular inhibitor of apoptosis 1	cIAP1	GTGGCTTGAGGTGTTGGGAAT	ACTCACACCTTGGAAACCACTTG
Flice-like inhibitory protein	FLIP	TCAGCCTTCCAAGATAGATACTCCAT	AACCCACGTGGATCATCTATGC
X-linked inhibitor of apoptosis	XIAP	ACCTGCAGACATCAATAAGGAAGAA	ACCGCACGGTATCTCCTTCAC
BH3 interacting domain death agonist	BID	TGGTCTGCTGTTCCAGTGGTAA	AGCATCCACTGTCGTGCTTTTAA
Bcl-2-associated X protein	BAX	CTCAGGATGCGTCCACCAA	CCTCTGCAGCTCCATGTTACTGT
Bcl-2 antagonist killer	BAK	AGAGGAGGTTTTCCGCAGCTA	ACCCCTTCAGCCTCCTGTTC
Bcl-2-modifying facto	BMF	GAGCCATCTCAGTGTGTGGAG	TGGGCAAACAGGTCAGCAG
Noxa	Noxa	ACCAAGCCGGATTTGCGATT	ACTTGCACTTGTTCCTCGTGG
Second mitochondria-derived activator of caspases	Smac	GCAGCGTAACTTCATTCTTC	CAAAGCCAATCGTCACAG
B-cell lymphoma 2	BCL-2	ATTGATGGGATCGTTGCCTTAT	TCCAATTCCTTTCGGATCTTTA
B-cell lymphoma xl	BCL-XL	GAGCTGGTGGTTGACTTTCTC	TCCATCTCCGATTCAGTCCCT
Myeloid cell leukemia 1	MCL-1	GTGCCTTTGTGGCTAAACACT	AGTCCCGTTTTGTCCTTACGA
Glyceraldehyde-3-phosphate dehydrogenase	GAPDH	CAATGACCCCTTCATTGACC	GACAAGCTTCCCGTTCTCAG
β-actin	ACTB	GGCACCCAGCACAATGAAG	CCGATCCACACGGAGTACTTG

Table SII. Combination effects of cyclopamine and circularly permuted TRAIL on SKO-007 cells apoptosis.

CPT, ng/ml	0	100	0	100
Cyclopamine, nmol/l	0	0	10	10
	5.01	12.60	6.60	42.00
	6.12	13.40	7.81	41.80
	5.19	11.80	5.92	44.30
	4.12	10.90	6.43	46.10
	7.12	12.30	6.89	37.80
	4.69	11.80	5.89	36.90
X	5.38	12.13[a]	6.59[a]	41.48[a-c]
S	1.08	0.85	0.71	3.58
Q				2.31

[a]P<0.05 vs. 0 nmol/l drugs; [b]P<0.05 vs. 10 μmol/l cyclopamine; [c]P<0.05 vs. CPT. TRAIL, tumor necrosis factor related apoptosis inducing ligand; X, mean; s, standard deviation.

Table SIII. Combination effects of cyclopamine and circularly permuted TRAIL SP cells in SKO-007 cells.

CPT, ng/ml	0	100	0	100
Cyclopamine, nmol/l	0	0	10	10
Inhibitory rate, %	1.91	1.21	0.61	0.15
	1.82	0.98	0.76	0.11
	1.77	1.01	0.82	0.17
	1.69	1.11	0.79	0.21
	1.81	0.68	0.89	0.41
	1.72	0.79	0.59	0.17
X	1.79	0.96[a]	0.74[a]	0.20[a-c]
S	0.08	0.20	0.12	0.11

[a]P<0.05 vs. 0 nmol/l drugs; [b]P<0.05 vs. 10 μmol/l cyclopamine; [c]P<0.05 vs. CPT. TRAIL, tumor necrosis factor related apoptosis inducing ligand.

Table SIV. Effects of cyclopamine and circularly permuted TRAIL on gene expression in SKO-007 cells (fold change).

	Cyclopamine		CPT		Combination	
Genes	X	s	X	s	X	s
SHH	1.23	0.12	1.19	0.12	2.87	0.29
IHH	1.01	0.10	1.02	0.10	1.07	0.11
DHH	1.18	0.12	1.65	0.17	2.17	0.22
PTCH1	1.02	0.10	0.93	0.09	1.05	0.10
SMO	1.10	0.11	1.02	0.10	1.18	0.12
GLI1	0.74	0.07	1.09	0.11	0.72	0.07
GLI2	0.77	0.08	1.04	0.10	0.76	0.08
GLI3	0.81	0.08	1.03	0.10	0.83	0.08
DR4	1.71	0.17	1.02	0.10	1.82	0.18
DR5	1.21	0.12	1.04	0.10	1.27	0.13
FasL	1.84	0.18	1.15	0.12	3.86	0.39
CASP3	1.08	0.11	1.18	0.12	1.22	0.12
CASP8	1.10	0.11	1.12	0.11	1.14	0.11
FADD	0.95	0.09	0.97	0.10	0.99	0.10
cIAP1	0.91	0.09	0.90	0.09	0.89	0.09
FLIP	1.02	0.10	1.05	0.11	1.01	0.10
XIAP	0.96	0.10	1.02	0.10	1.04	0.10
BID	1.02	0.10	0.99	0.10	1.04	0.10
BAX	1.09	0.11	1.29	0.13	1.35	0.14
BAK	1.03	0.10	1.10	0.11	1.23	0.12
BMF	1.51	0.15	0.99	0.10	1.15	0.11
Noxa	2.03	0.20	2.24	0.22	2.14	0.21
Smac	1.21	0.12	1.06	0.11	1.12	0.11
BCL-2	0.95	0.10	0.94	0.09	0.93	0.09
BCL-XL	0.96	0.10	0.97	0.10	0.94	0.09
MCL-1	0.87	0.09	0.80	0.08	0.90	0.09

TRAIL, tumor necrosis factor related apoptosis inducing ligand; X, mean; s, standard deviation.