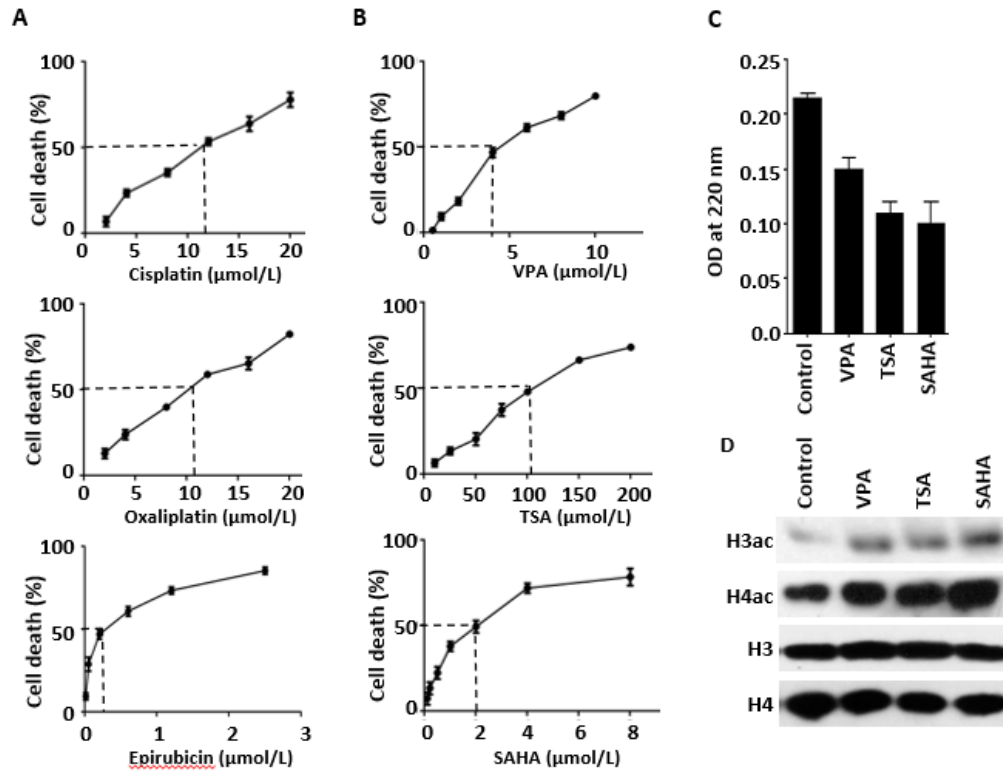


Supplementary Figure 1 Histone deacetylase and histone acetyltransferase activity assay in gastric cancer patient samples: Nucleo-cytosolic fraction was used to compare HDAC and HAT levels in paired negative resection margin and tumor tissues of paired GC samples using calorimetric assay. Experiment was done in triplicates and mean absorbance (A405 and A540) is expressed as bar graph. HDAC: Histone deacetylase; HAT: Histone acetyl transferase.



Supplementary Figure 2 Dose response of chemotherapy drugs and HDAC inhibitor on gastric cancer cells. MTT assay based dose response curve for AGS cells after treatment with chemotherapy drugs: A: Cisplatin (upper panel), Oxaliplatin (middle panel), Epirubicin (lower panel), and with HDAC inhibitors; B: VPA (upper panel), TSA (middle panel) and SAHA (lower panel); C: Calorimetry based analysis of the effect of HDAC inhibitors, VPA, TSA and SAHA on the HDAC activity after treatment of AGS cells at IC₅₀ concentration of each for 24 hrs. Experiment was done in triplicates and mean absorbance is expressed as bar graph; D: Immunoblot analysis of histone H3 and H4 acetylation levels after the treatment of AGS cells with HDAC inhibitors. GC: Gastric Cancer; HDAC: Histone deacetylase; Drug: Chemotherapy drugs; VPA: Valproic Acid; SAHA: Suberanilohydroxamic acid; TSA: Trichostatin A; MTT: 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide; CI: Combination index; H3: Histone H3; H4: Histone H4; H3ac: Pan-acetyl H3; H4: pan-acetyl H4.

Supplementary Table 1 Dose for combinatorial treatment of chemotherapy drugs and Histone deacetylase inhibitors in fixed constant ratio

Dilution factor		$1/8 \times IC_{50}$	$1/4 \times IC_{50}$	$1/2 \times IC_{50}$	IC_{50}	$2 \times IC_{50}$	$4 \times IC_{50}$	$8 \times IC_{50}$
Dose of single agent ($\mu\text{mol/L}$)	Cisplatin (Cis)	1.5	3	6	12	24	48	96
	Oxaliplatin (Oxa)	1.25	2.5	5	10	20	40	80
	Epirubicin (Epi)	0.025	0.05	0.1	0.2	0.4	0.8	1.6
	VPA	500	1000	2000	4000	8000	16000	32000
	TSA	0.25	0.5	1	2	4	8	16
	SAHA	0.00125	0.0025	0.005	0.01	0.02	0.04	0.08
Dose of combined agents ($\mu\text{mol/L}$)	Cis. and VPA	501.5	1003	2006	4012	8024	16048	32096
	Cis. and TSA	1.75	3.5	7	14	28	54	112
	Cis. and SAHA	1.50125	3.0025	6.005	12.01	24.02	48.04	112
	Oxa. and VPA	501.25	1002.5	2005	4010	8020	16040	32080
	Oxa. and TSA	1.5	3		12	24	46	96
	Oxa. and SAHA	1.25125	2.5025	5.005	10.01	20.02	40.04	80.08
	Epi and VPA	500.025	1000.05	2000.1	4000.2	8000.4	16000.8	32001.6
	Epi and TSA	0.275	0.55	1.1	2.2	4.4	6.8	17.6
	Epi and SAHA	0.02625	0.0525	0.105	0.21	0.42	0.84	1.68

SAHA: Suberanilohydroxamic acid; TSA: Trichostatin A; IC: Inhibitory concentration.