

Supplementary Table S1. List of reagents

A. Primary antibodies

Name	Reactive Species	Source	Dilution	Company	Catalogue No.	Application
Bak	H, Hamster, Pig, Mk	Rabbit pAb	1/1000 (WB)	AbCam	Ab69404	WB
HA tag	Independent	Mouse mAb	1/5000 (WB)	AbCam	Ab130275	WB
Histone H3	H, M, R, Mk	Rabbit pAb	1/5000 (WB)	Santa Cruz	SC-10809	WB
Oma1	H, M, R	Rabbit pAb	1/1000 (WB)	AbCam	Ab104316	WB
Opa1	H, M, R	Mouse mAb	1/1000 (WB)	BD Biosciences	612607	WB
Phb1	H, M, R	Rabbit pAb	1/1000 (WB)	Santa Cruz	SC-377037	WB, PLA
P-p53(Ser15)	H, M, R, Mk	Mouse mAb	1/5000 (WB)	Santa Cruz	SC-135772	WB
P-p53(Ser15)	H, M, R, Mk	Mouse mAb	1/100	Cell Signaling	9286	PLA
P-p53 (Ser20)	H, Mk	Mouse pAb	1/5000 (WB)	Santa Cruz	sc-18079	WB
TOM20	H, M, R	Mouse mAb	1/250 (IF) 1/5000 (WB)	Santa Cruz	sc-17764	WB, IF
GAPDH	H, M, R	Rabbit mAb	1/10,000	Ab cam	Ab181602	WB

B. Secondary antibodies

Host/Conjugate	Dilution	Company	Cat No.	Application
Goat Anti-Mouse Alexa Fluor 488 conjugate	1/400	Thermo Fisher Scientific	A11001	IF

C. siRNA

Name	Conc (nM)	Company	Catalogue
Phb1 siRNA (h)	0-100 nM	Origene	SR303488
Scramble siRNA (h)	0-100 nM	Origene	SR30004

*Western Blotting (WB), ImmunoFluorescence (IF), Monoclonal Antibody (mAb), Polyclonal Antibody (pAb), H (Human), R (Rabbit), M (Mouse), Mk (Monkey), Cell Signaling Technology (Danvers, MA, USA), Santa Cruz Biotechnology (Santa Cruz, CA, USA), Abcam (Cambridge, MA, USA), LifeSpan BioSciences (Seattle, WA, USA), BD Biosciences (San Jose, CA, USA), Thermo Fisher Scientific (Waltham, MA, USA).

Supplementary Table S2. Information of patients in the study

Characteristics (patients, n=30) paired sections (60)	Range	Patient studied population	
		n/ Total	%
Age (years)	< 50	3 / 29	10.3
	50-60	14 / 29	48.3
	> 60	12/ 29	41.4
FIGO (Stage)	III	26 / 29	90
	IV	3 / 29	10
Progression-free interval (PFI)	PFI > 12 m	14 / 29	48.3
	6 m < PFI ≤ 12 m	10 / 29	34.5
	6 m ≥ PFI	5 / 29	17.2
Histologic sub-type	High grade serous	29 / 29	100

SupplementaryTable S2. Information of patients recruited in the study

Table illustrates the clinical characteristics of the patients recruited for ovarian tumor immunohistochemistry section for PLA study. The majority of patients were older than 50 as menopause women. All subtypes of tumors were high-grade serous (100 %) and tumor samples were collected from patients with late stage as III (90%) or IV (10%). Half of patients had a recurrent disease and progression-free survival (PFS) of 12 months or more (48.3 %), while some patients had a recurrence between 6 to 12 months (34.5 %) and less than 6 months (17.2 %).