

## Appendix 1 Inclusion and exclusion criteria for ascites samples

### *Ascites samples of ovarian cancer group*

#### **Inclusion criteria**

- ① Epithelial ovarian cancer was confirmed by postoperative pathology.
- ② Preoperative chemoradiotherapy was not performed.
- ③ Complete clinical records.
- ④ All patients were followed up after operation.

#### **Exclusion criteria:**

- ① Excluding patients with other systemic malignant tumors.
- ② Excluding metastases from tumors in other organs of the reproductive system (including primary double cancers).
- ③ Patients with borderline tumors were excluded;
- ④ The first treatment was chemotherapy, radiotherapy or endocrine therapy.

### *Ascites samples of benign disease group*

#### **Inclusion Criteria**

- ① Surgical treatment was performed due to uterine fibroids or adenomyoma, and the postoperative pathology confirmed that the uterus was benign and the fallopian tube and ovary tissues were normal.
- ② Women with clear medical history and good health status.

#### **Exclusion Criteria**

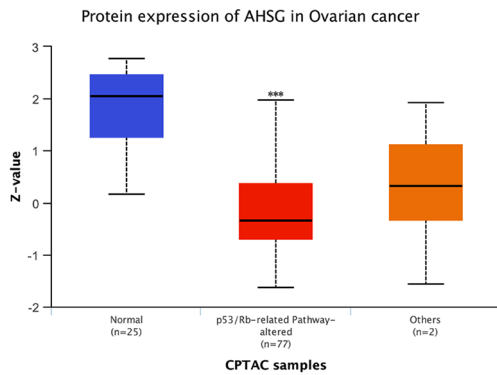
- ① Patients with blood diseases, kidney diseases, liver diseases or other malignant tumors, and those with a history of cancer were excluded.
- ② Patients with borderline tumors were excluded.
- ③ Special populations such as pregnancy and lactation were excluded.

**Table S1** The clinicopathological features of 26 ovarian cancer patients

ID	Age (years)	FIGO stage	Pathological type	CA125 (U/mL)	Tumor size	Peritoneal metastasis	Ascites volume, mL
1#	81	IIIC	HGSOC	1014.00	10.3 cm × 8.1 cm	Yes	600
2#	69	IIIC	HGSOC	122.6	NA	Yes	400
3#	68	IV	HGSOC	125.9	NA	Yes	2500
4#	58	IC	HGSOC	26.31	7 cm × 4.3 cm × 6.1 cm	Yes	50
5#	54	IIIC	HGSOC	754.30	13.5 cm × 8.7 cm	Yes	300
6#	76	IV	HGSOC	640.20	24.0 cm × 11.8 cm × 11.9 mm	Yes	800
7#	58	IV	HGSOC	>5000	NA	Not clear	1200
8#	59	–	–	1281	4.6 cm × 2.2 cm	Not clear	800
9#	59	III	HGSOC	235.7	5 cm × 5 cm	Yes	550
10#	54	III	OCCC	19.23	12.0 × 12.0 cm	Yes	1000
11#	68	IV	HGSOC	4970	7.7 cm × 3.2 cm	Not clear	1000
12#	60	IIIC	HGSOC	682.7	10 cm × 9 cm, 6 cm × 5 cm	Yes	300
13#	68	IV	HGSOC	161.2	NA	Not clear	200
14#	70	IIIC	OCS	563.70	8.0 cm × 8.0 cm	Yes	500
15#	52	IIIC	HGSOC	179.70	12 cm × 10 cm	Yes	300
16#	30	III	Immature teratoma of the ovary, IT	304.90	18.6 cm × 7.5 cm × 19.1 cm	No	200
17#	81	III	HGSOC	922.30	10.3 cm × 10.5 cm × 7.5 cm	Yes	100
18#	75	III	HGSOC	>5000	11.4 cm × 5.4 mm	Yes	450
19#	65	IIIC	HGSOC	73.10	18 cm × 15 cm, 5 cm × 4 cm	Yes	200
20#	51	IV	HGSOC	110.30	3.0 cm × 2.0 cm	Yes	100
21#	52	I	OCCC	>5000	12.0 cm × 9.4 cm × 11.3 cm	Not	2400
22#	72	IIIC	OCS	129.20	10.0 cm × 8.0 cm	Yes	200
23#	58	I	OCCC	13.4	8.4 cm × 6.4 cm	No	200
24#	52	IV	HGSOC	974.1	NA	Yes	1500
25#	69	IV	HGSOC	>5000	NA	Yes	2000
26#	58	IV	HGSOC	316.5	2.8 cm × 1.6 cm, 2.1 cm × 1.7 cm	Yes	400

**Table S2** Antibodies used in this study

Antigens	Manufacturer	Application
CD63 (BS90254)	Bioworld, Minnesota, USA	1:1000 for WB
TSG101 (BS91381)		1:1000 for WB
FAK (BS9850M)		1:1000 for WB
p-FAK (MB11862)		1:1000 for WB
p-Src (BS79356)		1:1000 for WB
MMP2 (BS72289)		1:1000 for WB
GAPDH (MB66349)		1:10000 for WB
CD9 (AF5139)	Affinity Biosciences, Changzhou, China	1:1000 for WB
p53 (BF8013)		1:1000 for WB
p-p53 (AF3075)		1:1000 for WB
VEGFR (AF6281)		1:1000 for WB
Src (WL01570)	Wanlei-bio, Shenyang, China	1:1000 for WB
MMP9 (10375-2-AP)	Proteintech, Chicago, USA	1:1000 for WB



**Figure S1** Bioinformatics analysis to analyze the correlation between AHSG and p53/Rb-related pathway status. \*\*\*,  $P < 0.001$ .