Supplement Fig. 1

A

GSE15471

Normal

Tumor

Max

Min

B

GSE15471

GSE28735

GSE16615

C

oncomine

D

Relative RASAL2 mRNA Expression

G1 (n=30)

G2 (n=60)

G3+G4 (n=50)

T1+T2 (n=32)

T3+T4 (n=145)

H+IA (n=49)

IIA-IV (n=126)

E

F

OS

TCGA

DFS

G

KRAS^{WT}

KRAS^{G12C}
Supplement Fig. 2

A

B
Supplement Fig. 3

A

B

C

D

E

Lung metastasis

Liver metastasis
Supplement Fig. 4

A

B

C

D
Supplement Fig. 5
Supplement Fig. 6

A

|           | MG132 | Chloroquine |
|-----------|-------|-------------|
| CHX       | 0     | 1           |
| Panc-1    |       |             |
| 0         | 0     | 0           |
| 1         | 1     | 1           |
| 2         | 2     | 2           |
| 4         | 4     | 4           |
| 6         | 6     | 6           |

| MIA PaCa-2 |       |             |
|------------|-------|-------------|
| 0         | 0     | 0           |
| 1         | 1     | 1           |
| 2         | 2     | 2           |
| 4         | 4     | 4           |
| 6         | 6     | 6           |

TIAM1

β-actin

B

Panc-1

| Relative TIAM1 Expression (%) |
|--------------------------------|
| 100                           |
| 90                            |
| 80                            |
| 70                            |
| 60                            |
| 50                            |
| 40                            |
| 30                            |
| 20                            |
| 10                            |
| 0                             |

0 1 2 4 6 (h)

MIA PaCa-2

| Relative TIAM1 Expression (%) |
|--------------------------------|
| 100                           |
| 90                            |
| 80                            |
| 70                            |
| 60                            |
| 50                            |
| 40                            |
| 30                            |
| 20                            |
| 10                            |
| 0                             |

0 1 2 4 6 (h)
Supplement Fig. 7

A

Relative Expression

TIAM1  RASAL2

NC  RASAL2  RASAL2+VT

B

Relative Expression

RASAL2  TIAM1

NC  RASAL2  RASAL2+sTIAM1-1  RASAL2+sTIAM1-2
Supplement Fig. 8
**Supplement Table1**

Expression of RASAL2 according to clinical features of 176 pancreatic cancer patients

| Characteristic        | High | Low | P-value |
|-----------------------|------|-----|---------|
| Age                   |      |     |         |
| ≥65 years             | 40   | 55  | 0.546   |
| < 65 years            | 38   | 43  |         |
| Sex                   |      |     |         |
| Male                  | 42   | 54  | 0.88    |
| Female                | 36   | 44  |         |
| Grade                 |      |     |         |
| G1                    | 6    | 24  | 0.01*   |
| G2                    | 48   | 46  |         |
| G3/4                  | 24   | 25  |         |
| Stage                 |      |     |         |
| I/IIA                 | 20   | 29  | 0.502   |
| IIB-IV                | 58   | 66  |         |
| Size                  |      |     |         |
| ≥4cm                  | 39   | 30  | 0.017*  |
| <4cm                  | 35   | 59  |         |
| New tumor event       |      |     |         |
| Yes                   | 29   | 22  | 0.04*   |
| NO                    | 41   | 65  |         |

*Statistical significant difference