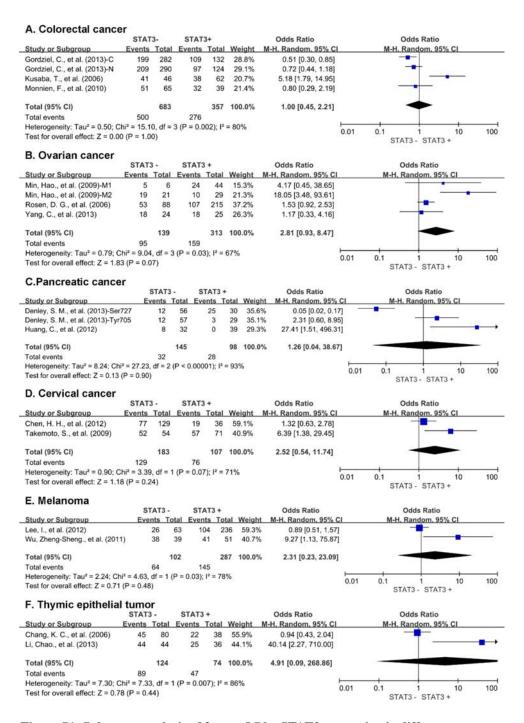
Prognostic role of STAT3 in solid tumors: a systematic review and meta-analysis

Supplementary Materials



Supplementary Figure S1: Subgroup analysis of 3-year OS by STAT3 expression in different tumor types. (A) colorectal cancer; (B) ovarian cancer; (C) pancreatic cancer; (D) cervical cancer; (E) melanoma; (F) thymic epithelial tumor. M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; N: nuclear expression; C: cytoplasmic expression.

	STAT	3-	STAT	3+		Odds Ratio			Odds Rati	D	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C		M-H.	Random,	95% CI	
Dolled-Filhart, M., et al. (2003)-M1-C	77	88	187	198	18.1%	0.41 [0.17, 0.99]			•		
Dolled-Filhart, M., et al. (2003)-M1-N	203	220	62	66	11.0%	0.77 [0.25, 2.37]		-	-		
Dolled-Filhart, M., et al. (2003)-M2-C	212	229	52	56	10.9%	0.96 [0.31, 2.97]		-	-	-	
Dolled-Filhart, M., et al. (2003)-M2-N	145	161	119	124	13.1%	0.38 [0.14, 1.07]					
Sonnenblick, A., et al. (2012)	82	90	35	35	1.7%	0.14 [0.01, 2.43]	+				
Sonnenblick, A., et al. (2013)-1	79	82	46	47	2.7%	0.57 [0.06, 5.67]			-	_	
Sonnenblick, A., et al. (2013)-2	138	150	182	184	6.1%	0.13 [0.03, 0.57]	-		_		
Yamashita, H., et al. (2006)	264	300	190	206	36.5%	0.62 [0.33, 1.15]					
Total (95% CI)		1320		916	100.0%	0.51 [0.35, 0.74]			•		
Total events	1200		873								
Heterogeneity: Tau ² = 0.00; Chi ² = 6.78	3, df = 7 (F	= 0.45	5); l ² = 0%							10	100
Test for overall effect: Z = 3.52 (P = 0.0	0004)						0.01	0.1 ST/	1 AT3 - STA	10 T3 +	100

Supplementary Figure S2: Subgroup analysis of 3-year OS by STAT3 expression in breast cancer. M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; N: nuclear expression; C: cytoplasmic expression.

A. Colorectal cancer

	STAT	3 -	STAT	3 +		Odds Ratio		Odd	s Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% C	E	M-H. Ran	dom. 95% Cl	
Gordziel, C., et al. (2013)-C	172	282	98	132	19.9%	0.54 [0.34, 0.86]				
Gordziel, C., et al. (2013)-N	180	290	88	124	19.9%	0.67 [0.42, 1.05]		-	1	
Hbibi, A. Tadlaoui., et al. (2008)-M1	41	73	16	27	15.2%	0.88 [0.36, 2.16]				
Hbibi, A. Tadlaoui., et al. (2008)-M2	19	38	38	62	16.0%	0.63 [0.28, 1.43]			÷	
Kusaba, T., et al. (2006)	41	46	30	62	13.5%	8.75 [3.05, 25.09]				-
Monnien, F., et al. (2010)	43	65	28	39	15.5%	0.77 [0.32, 1.83]				
Total (95% CI)		794		446	100.0%	0.96 [0.52, 1.77]		•	•	
Total events	496		298							
Heterogeneity: Tau ² = 0.44; Chi ² = 23	.57, df = 5	(P = 0.	.0003); I ²	= 79%					1 10	100
Test for overall effect: Z = 0.14 (P = 0	.89)						0.01	0.1 STAT3 -	1 10 • STAT3 +	100

B. Lung cancer

3	STAT	3 -	STAT	3 +		Odds Ratio		0	dds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% C	<u> </u>	M-H. F	andom. 95% CI	
Cortas, T., et al. (2007)	44	84	28	50	13.0%	0.86 [0.43, 1.75]				
Galleges Ruiz, M. I., et al. (2009)	41	111	25	51	13.4%	0.61 [0.31, 1.19]		-		
Haura, Eric B., et al. (2005)	43	82	54	94	14.4%	0.82 [0.45, 1.48]				
van Cruijsen, H., et al. (2009)	24	48	38	116	13.3%	2.05 [1.03, 4.08]				
Wang, M., et al. (2011)	44	112	24	96	14.4%	1.94 [1.07, 3.53]				
Yin, Z., et al. (2012)	20	34	18	42	10.6%	1.90 [0.76, 4.76]				
Yu, Y., et al. (2015)	16	33	10	49	10.0%	3.67 [1.39, 9.72]				
Zhang, Wang., et al. (2013)	25	38	5	11	6.8%	2.31 [0.59, 9.02]				
Zhao, X., et al. (2012)-M1	6	57	0	71	2.1%	18.05 [0.99, 327.58]				• •
Zhao, X., et al. (2012)-M2	3	66	0	62	2.0%	6.89 [0.35, 136.15]		-		
Total (95% CI)		665		642	100.0%	1.54 [0.99, 2.40]			•	
Total events	266		202							
Heterogeneity: Tau ² = 0.26; Chi ² =	22.01, df :	= 9 (P =	0.009); 1	2 = 59%	6			1		400
Test for overall effect: Z = 1.90 (P =	= 0.06)						0.01	0.1 STA	1 10 T3 - STAT3 +	100

C. Ovarian cancer

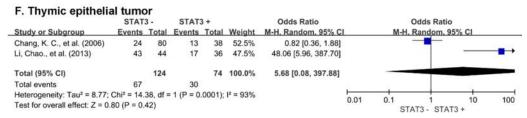
	STAT	3 -	STAT	3 +		Odds Ratio		0	Odds Ratio	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C		M-H, 8	Random, 95% CI	
Min, Hao., et al. (2009)-M1	0	6	13	44	13.2%	0.18 [0.01, 3.42]	+			
Min, Hao., et al. (2009)-M2	12	21	0	29	13.4%	77.63 [4.19, 1439.00]			12.1	
Rosen, D. G., et al. (2006)	43	88	69	215	41.2%	2.02 [1.22, 3.36]				
Yang, C., et al. (2013)	14	24	8	25	32.2%	2.98 [0.93, 9.57]				
Total (95% CI)		139		313	100.0%	2.71 [0.75, 9.72]			-	
Total events	69		90							
Heterogeneity: Tau ² = 0.96; 0	Chi ² = 9.0	1, df = 3	B(P = 0.0)	3); l ² =	67%		0.01		-! !	0 100
Test for overall effect: Z = 1.	53 (P = 0.1	13)					0.01	0.1 STA	1 1 (T3 - STAT3 +	0 100

D. Cervical cancer

	STAT	3 -	STAT	3 +		Odds Ratio			Odds Ratio	0	
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% C		M-H	Random.	5% CI	
Chen, H. H., et al. (2012)	63	129	17	36	56.9%	1.07 [0.51, 2.24]					
Takemoto, S., et al. (2009)	51	54	56	71	43.1%	4.55 [1.25, 16.65]					
Total (95% CI)		183		107	100.0%	1.99 [0.48, 8.24]			-		
Total events	114		73								
Heterogeneity: Tau ² = 0.78;	Chi ² = 3.68	8, df = 1	1 (P = 0.0	5); ² =	73%		0.01	0.1		10	100
Test for overall effect: Z = 0.5	95 (P = 0.3	34)					0.01		AT3 - STA		100

E. Melanoma

STAT3 -STAT3 + Odds Ratio Odds Ratio Events Total Events Total Weight M-H. Random, 95% Cl Study or Subgroup M-H, Random, 95% C 1.18 [0.62, 2.24] 3.21 [1.27, 8.09] Lee, I., et al. (2012) 16 63 53 236 55.7% Wu, Zheng-Sheng., et al. (2011) 51 44.3% 30 39 26 Total (95% CI) 102 287 100.0% 1.83 [0.69, 4.87] Total events 46 79 Heterogeneity: Tau² = 0.34; Chi² = 3.04, df = 1 (P = 0.08); I² = 67% 0.01 100 0.1 10 Test for overall effect: Z = 1.22 (P = 0.22) STAT3 - STAT3 +



Supplementary Figure S3: Subgroup analysis of 5-year OS by STAT3 expression in different tumor types. (A) colorectal cancer; (B) lung cancer; (C) ovarian cancer; (D) cervical cancer; (E) melanoma; (F) thymic epithelial tumor. M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; N: nuclear expression; C: cytoplasmic expression.

	STAT	3 -	STAT	3 +		Odds Ratio			Odds Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random. 95% C		М-Н.	Random. 95	% CI	
Dolled-Filhart, M., et al. (2003)-M1-C	70	88	169	198	14.0%	0.67 [0.35, 1.28]					
Dolled-Filhart, M., et al. (2003)-M1-N	179	220	61	66	10.1%	0.36 [0.14, 0.95]					
Dolled-Filhart, M., et al. (2003)-M2-C	192	229	49	56	11.3%	0.74 [0.31, 1.76]					
Dolled-Filhart, M., et al. (2003)-M2-N	127	161	113	124	13.0%	0.36 [0.18, 0.75]			-		
Sheen-Chen, Shyr-Ming., et al. (2008)	58	75	16	27	10.5%	2.35 [0.92, 6.00]			-		
Sonnenblick, A., et al. (2012)	69	90	33	35	6.0%	0.20 [0.04, 0.90]			_		
Sonnenblick, A., et al. (2013)-1	77	82	44	47	6.1%	1.05 [0.24, 4.61]		-	-		
Sonnenblick, A., et al. (2013)-2	120	150	173	184	12.9%	0.25 [0.12, 0.53]		-	- 1		
Yamashita, H., et al. (2006)	245	300	177	206	16.1%	0.73 [0.45, 1.19]					
Total (95% CI)		1395		943	100.0%	0.57 [0.37, 0.89]			•		
Total events	1137		835								
Heterogeneity: Tau ² = 0.25; Chi ² = 19.92	2, df = 8 (P	= 0.01); l ² = 60 ⁶	%					<u> </u>		100
Test for overall effect: Z = 2.48 (P = 0.01)						0.01	0.1 ST/	AT3 - STAT3	10 3 +	100

Supplementary Figure S4: Subgroup analysis of 5-year OS by STAT3 expression in breast cancer. M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; N: nuclear expression; C: cytoplasmic expression.

A. p-STAT3

	p-STAT	ГЗ -	p-STAT	r3 +		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% C	M-H. Random, 95% CI
Abou-Ghazal, M., et al. (2008)	31	63	24	65	3.0%	1.65 [0.82, 3.35]	+
Birner, P., etal. (2010)	8	46	0	65	1.0%	28.92 [1.62, 515.13]	· · · · ·
Chen, C. C., et al. (2010)	37	61	13	34	2.8%	2.49 [1.05, 5.89]	
Cortas, T., et al. (2007)	51	84	35	50	2.9%	0.66 [0.31, 1.40]	
Deng, J. Y., et al. (2010)	23	27	3	26	2.0%	44.08 [8.86, 219.36]	
Deng, J., et al. (2013)	20	25	22	89	2.5%	12.18 [4.09, 36.30]	
Denley, S. M., et al. (2013)-Ser727	12	56	25	30	2.5%	0.05 [0.02, 0.17]	
Denley, S. M., et al. (2013)-Tyr705	12	57	3	29	2.2%	2.31 [0.60, 8.95]	
Dolled-Filhart, M., et al. (2003)-M2-C	212	229	52	56	2.5%	0.96 [0.31, 2.97]	
Dolled-Filhart, M., et al. (2003)-M2-N	145	161	119	124	2.6%	0.38 [0.14, 1.07]	
Galleges Ruiz, M. I., et al. (2009)	50	111	28	51	3.0%	0.67 [0.35, 1.31]	10 10 10 10 10 10 10 10 10 10 10 10 10 1
Haura, Eric B., et al. (2005)	61	82	73	94	3.0%	0.84 [0.42, 1.67]	
Horiguchi, Akio., et al. (2002)	22	24	13	24	1.9%	9.31 [1.78, 48.72]	
Huang, C., et al. (2012)	8	32	0	39	1.0%	27.41 [1.51, 496.31]	
Kusaba, T., et al. (2006)	41	46	38	62	2.6%	5.18 [1.79, 14.95]	
ee, I., et al. (2012)	26	63	104	236	3.1%	0.89 [0.51, 1.57]	
ee, J., et al. (2009)	176	224	54	79	3.1%	1.70 [0.96, 3.01]	
in, G. S., et al. (2014)	5	17	10	73	2.4%	2.63 [0.76, 9.06]	+
Mano, Y., et al. (2013)	55	65	26	36	2.7%	2.12 [0.78, 5.71]	+
Min, Hao., et al. (2009)-M2	19	21	10	29	1.9%	18.05 [3.48, 93.61]	
Monnien, F., et al. (2010)	51	65	32	39	2.6%	0.80 [0.29, 2.19]	
Piperi, Christina., et al. (2011)	1	8	0	89	0.8%	35.80 [1.34, 957.31]	
Rosen, D. G., et al. (2006)	53	88	107	215	3.2%	1.53 [0.92, 2.53]	
Ryu, Keinosuke., et al. (2010)	15	20	15	31	2.4%	3.20 [0.93, 10.98]	
Schoppmann, Sebastian F., et al. (2012)	104	180	47	144	3.2%	2.82 [1.79, 4.46]	
Slinger, E., et al. (2010)	2	14	0	7	0.9%	3.00 [0.13, 71.31]	
Sonnenblick, A., et al. (2012)	82	90	35	35	1.0%	0.14 [0.01, 2.43]	• • • • • •
Takemoto, S., et al. (2009)	52	54	57	71	2.0%	6.39 [1.38, 29.45]	
Гат, L., et al. (2007)-С	26	28	16	22	1.8%	4.88 [0.88, 27.15]	
Tam, L., et al. (2007)-N	31	31	11	19	1.0%	46.57 [2.48, 872.94]	
van Cruijsen, H., et al. (2009)	28	48	57	116	3.0%	1.45 [0.73, 2.86]	+
Vang, M., et al. (2011)	82	112	51	96	3.1%	2.41 [1.35, 4.30]	
Vang, Y., et al. (2011)	3	21	0	47	0.9%	17.97 [0.88, 365.16]	
Voo, S., et al. (2011)	110	179	80	101	3.1%	0.42 [0.24, 0.74]	
Vu, Zheng-Sheng., et al. (2011)	38	39	41	51	1.5%	9.27 [1.13, 75.87]	
Kiong, Hua., et al. (2012)-M2	83	126	34	136	3.1%	5.79 [3.39, 9.89]	
akata, Yuichi., et al. (2007)	47	56	21	55	2.8%	8.46 [3.45, 20.73]	
(ang, C., et al. (2013)	18	24	18	25	2.3%	1.17 [0.33, 4.16]	
rang, Cao., et al. (2009)	32	35	29	35	2.1%	2.21 [0.51, 9.64]	
ru, Y., et al. (2015)	25	33	14	49	2.6%	7.81 [2.85, 21.43]	
Zhang, C. H., et al. (2012)-M2	34	42	21	58	2.7%	7.49 [2.93, 19.13]	
hang, Wang., et al. (2012)-M2	34	38	6	11	2.1%	4.44 [1.02, 19.38]	
Zhao, X., et al. (2012)-M2	41	66	27	62	3.0%	2.13 [1.05, 4.31]	
Total (95% CI)		2891		2805	100.0%	2.45 [1.73, 3.46]	•
Total events	2004	100000	1371	000000			
Heterogeneity: Tau ² = 0.92; Chi ² = 223.85, Test for overall effect: Z = 5.07 (P < 0.0000	df = 42 (P	< 0.00		81%			0.01 0.1 1 10 STAT3 - STAT3 +

B. STAT3

	STAT	3 -	STAT:	3 +		Odds Ratio	Odds Ratio
tudy or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C	M-H. Random, 95% CI
i, T., et al. (2012)	14	18	23	47	4.1%	3.65 [1.05, 12.74]	
Chang, K. C., et al. (2006)	45	80	22	38	5.2%	0.94 [0.43, 2.04]	
Chatterjee, Devasis., et al. (2008)	72	103	18	40	5.2%	2.84 [1.34, 6.02]	
Chen, H. H., et al. (2012)	77	129	19	36	5.2%	1.32 [0.63, 2.78]	
olled-Filhart, M., et al. (2003)-M1-C	77	88	187	198	5.0%	0.41 [0.17, 0.99]	
olled-Filhart, M., et al. (2003)-M1-N	203	220	62	66	4.4%	0.77 [0.25, 2.37]	
Sordziel, C., et al. (2013)-C	199	282	109	132	5.7%	0.51 [0.30, 0.85]	
Gordziel, C., et al. (2013)-N	209	290	97	124	5.7%	0.72 [0.44, 1.18]	
ia, Yanfei., et al. (2013)	25	29	10	19	3.9%	5.63 [1.40, 22.53]	
(im, D. Y., et al. (2009)	38	44	16	27	4.4%	4.35 [1.37, 13.80]	
i, Chao., et al. (2013)	44	44	25	36	1.7%	40.14 [2.27, 710.00]	
i, X., et al. (2015)	51	57	66	107	4.8%	5.28 [2.08, 13.40]	
/in, Hao., et al. (2009)-M1	5	6	24	44	2.4%	4.17 [0.45, 38.65]	
Pectasides, Eirini., et al. (2010)-1	22	47	21	23	3.5%	0.08 [0.02, 0.40]	· · · · · · · · · · · · · · · · · · ·
Vang, Y. C., et al. (2011)	24	40	9	36	4.7%	4.50 [1.68, 12.04]	
Kiong, Hua., et al. (2012)-M1	9	14	109	248	4.4%	2.30 [0.75, 7.05]	
amashita, H., et al. (2006)	264	300	190	206	5.5%	0.62 [0.33, 1.15]	
'in, Z., et al. (2012)	20	34	21	42	4.9%	1.43 [0.57, 3.56]	- - -
hang, C. H., et al. (2012)-M1	16	28	39	72	5.0%	1.13 [0.47, 2.72]	
hang, L. J., et al. (2013)	30	41	8	17	4.3%	3.07 [0.95, 9.95]	
hao, X., et al. (2012)-M1	47	57	21	71	5.0%	11.19 [4.77, 26.23]	
(hao, Yan., et al. (2012)	55	63	75	100	5.0%	2.29 [0.96, 5.46]	
otal (95% CI)		2014		1729	100.0%	1.72 [1.10, 2.70]	◆
otal events	1546		1171				
leterogeneity: Tau ² = 0.85; Chi ² = 109	70 df - 1	1 /P = I	0.000011	12 - 01	0/		0.01 0.1 1 10 10

Supplementary Figure S5: Subgroup analysis of 3-year OS according to STAT3 and p-STAT3 expression in solid tumors. (A) p-STAT3; (B) STAT3; M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; 1: Cohort 1; 2: Cohort 2; N: nuclear expression; C: cytoplasmic expression.

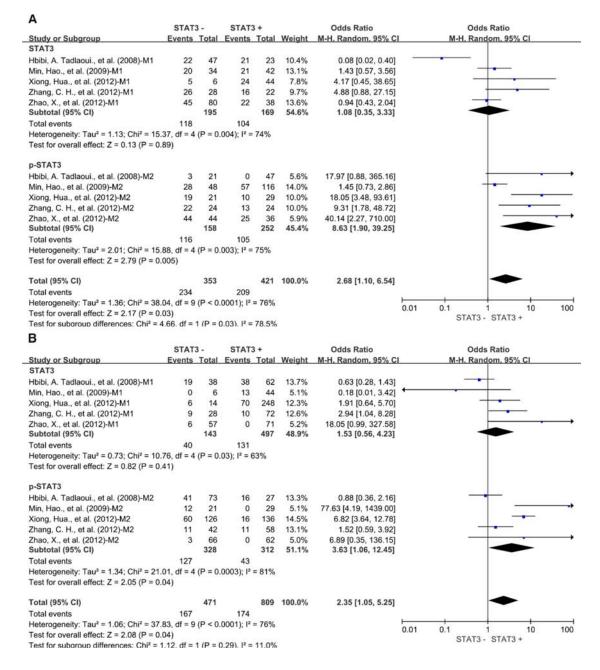
A. p-STAT3

	p-STAT	ГЗ -	p-STAT	13 +		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H. Random, 95% CI	M-H. Random, 95% Cl
Abou-Ghazal, M., et al. (2008)	26	63	23	65	3.2%	1.28 [0.63, 2.62]	
Chen, C. C., et al. (2010)	32	61	11	34	2.9%	2.31 [0.96, 5.54]	
Cortas, T., et al. (2007)	44	84	28	50	3.2%	0.86 [0.43, 1.75]	
Deng, J. Y., et al. (2010)	23	27	1	26	1.4%	143.75 [14.95, 1382.11]	2.
Deng, J., et al. (2013)	13	25	9	89	2.7%	9.63 [3.39, 27.36]	
Denley, S. M., et al. (2013)-Ser727	6	56	0	30	1.0%	7.85 [0.43, 144.32]	· · · · ·
Denley, S. M., et al. (2013)-Tyr705	6	57	0	29	1.0%	7.45 [0.40, 136.95]	
Dolled-Filhart, M., et al. (2003)-M2-C	192	229	49	56	2.9%	0.74 [0.31, 1.76]	· · · · · · · · · · · · · · · · · · ·
Dolled-Filhart, M., et al. (2003)-M2-N	127	161	113	124	3.1%	0.36 [0.18, 0.75]	
Galleges Ruiz, M. I., et al. (2009)	41	111	25	51	3.2%	0.61 [0.31, 1.19]	· · · · · ·
Haura, Eric B., et al. (2005)	43	82	54	94	3.3%	0.82 [0.45, 1.48]	
Hbibi, A. Tadlaoui., et al. (2008)-M1	41	73	16	27	2.9%	0.88 [0.36, 2.16]	
Horiguchi, Akio., et al. (2002)	22	24	13	24	1.9%	9.31 [1.78, 48.72]	
Huang, C., et al. (2012)	5	32	0	39	0.9%	15.80 [0.84, 297.59]	· · · · ·
Kusaba, T., et al. (2006)	41	46	30	62	2.7%	8.75 [3.05, 25.09]	
Lee, I., et al. (2012)	16	63	53	236	3.2%	1.18 [0.62, 2.24]	
Lee, J., et al. (2009)	158	224	47	79	3.4%	1.63 [0.96, 2.78]	
Mano, Y., et al. (2013)	55	65	22	36	2.8%	3.50 [1.35, 9.05]	
Min, Hao., et al. (2009)-M2	12	21	0	29	1.0%	77.63 [4.19, 1439.00]	
Monnien, F., et al. (2010)	43	65	28	39	2.9%	0.77 [0.32, 1.83]	
Rosen, D. G., et al. (2006)	43	88	69	215	3.4%	2.02 [1.22, 3.36]	
Ryu, Keinosuke., et al. (2000)	15	20	11	31	2.4%	5.45 [1.56, 19.06]	
Schoppmann, Sebastian F., et al. (2012)	95	180	36	144	3.4%		
Sonnenblick, A., et al. (2012)	95 69	90	33	35	2.1%	3.35 [2.08, 5.40]	
						0.20 [0.04, 0.90]	
Takemoto, S., et al. (2009)	51	54	56	71	2.4%	4.55 [1.25, 16.65]	<u> </u>
Tam, L., et al. (2007)-C	24	28	13	22	2.3%	4.15 [1.07, 16.14]	
Tam, L., et al. (2007)-N	29	31	8	19	1.9%	19.94 [3.65, 108.90]	
van Cruijsen, H., et al. (2009)	24	48	38	116	3.2%	2.05 [1.03, 4.08]	
Wang, M., et al. (2011)	44	112	24	96	3.3%	1.94 [1.07, 3.53]	
Woo, S., et al. (2011)	98	179	76	101	3.4%	0.40 [0.23, 0.68]	
Wu, Zheng-Sheng., et al. (2011)	30	39	26	51	2.9%	3.21 [1.27, 8.09]	
Xiong, Hua., et al. (2012)-M2	60	126	16	136	3.3%	6.82 [3.64, 12.78]	
Yakata, Yuichi., et al. (2007)	44	56	21	55	3.0%	5.94 [2.57, 13.73]	
Yang, C., et al. (2013)	14	24	8	25	2.5%	2.98 [0.93, 9.57]	
Yang, Cao., et al. (2009)	32	35	26	35	2.2%	3.69 [0.91, 15.05]	
Yu, Y., et al. (2015)	16	33	10	49	2.8%	3.67 [1.39, 9.72]	
Zhang, C. H., et al. (2012)-M2	11	42	11	58	2.8%	1.52 [0.59, 3.92]	
Zhang, Wang., et al. (2013)	25	38	5	11	2.3%	2.31 [0.59, 9.02]	
Zhao, X., et al. (2012)-M2	3	66	0	62	0.9%	6.89 [0.35, 136.15]	
Total (95% CI)		2858		2551	100.0%	2.34 [1.68, 3.25]	•
Total events	1673		1009				

B. STAT3

	STAT	3 -	STAT	3 +		Odds Ratio		Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C	I	M-H. Random, 95% Cl
Chang, K. C., et al. (2006)	24	80	13	38	5.1%	0.82 [0.36, 1.88]		
Chatterjee, Devasis., et al. (2008)	63	103	0	40	1.8%	127.00 [7.60, 2123.38]		
Chen, H. H., et al. (2012)	63	129	17	36	5.3%	1.07 [0.51, 2.24]		
Dolled-Filhart, M., et al. (2003)-M1-C	70	88	169	198	5.4%	0.67 [0.35, 1.28]		
Dolled-Filhart, M., et al. (2003)-M1-N	179	220	61	66	4.8%	0.36 [0.14, 0.95]		
Gordziel, C., et al. (2013)-C	172	282	98	132	5.8%	0.54 [0.34, 0.86]		
Gordziel, C., et al. (2013)-N	180	290	88	124	5.8%	0.67 [0.42, 1.05]		
Hbibi, A. Tadlaoui., et al. (2008)-M2	19	38	38	62	5.1%	0.63 [0.28, 1.43]		
Jia, Yanfei., et al. (2013)	14	29	2	19	3.4%	7.93 [1.54, 40.74]		
Kim, D. Y., et al. (2009)	36	44	11	27	4.5%	6.55 [2.21, 19.36]		V
Kim, Yeon-Joo., et al. (2011)	22	28	4	10	3.6%	5.50 [1.16, 26.02]		
i, Chao., et al. (2013)	43	44	17	36	2.7%	48.06 [5.96, 387.70]		
Min, Hao., et al. (2009)-M1	0	6	13	44	1.7%	0.18 [0.01, 3.42]	·	
Pectasides, Eirini., et al. (2010)-1	18	47	17	23	4.5%	0.22 [0.07, 0.66]	-	-
Sheen-Chen, Shyr-Ming., et al. (2008)	58	75	16	27	4.8%	2.35 [0.92, 6.00]		
Wang, Y. C., et al. (2011)	24	40	9	36	4.7%	4.50 [1.68, 12.04]		
Kiong, Hua., et al. (2012)-M1	6	14	70	248	4.5%	1.91 [0.64, 5.70]		
Yamashita, H., et al. (2006)	245	300	177	206	5.7%	0.73 [0.45, 1.19]		
rin, Z., et al. (2012)	20	34	18	42	4.9%	1.90 [0.76, 4.76]		
Zhang, C. H., et al. (2012)-M1	9	28	10	72	4.6%	2.94 [1.04, 8.28]		
Zhang, L. J., et al. (2013)	30	41	8	17	4.3%	3.07 [0.95, 9.95]		
Zhao, X., et al. (2012)-M1	6	57	0	71	1.7%	18.05 [0.99, 327.58]		
Zhao, Yan., et al. (2012)	50	63	42	100	5.3%	5.31 [2.56, 11.00]		
Fotal (95% CI)		2080		1674	100.0%	1.72 [1.09, 2.70]		•
Total events	1351		898					
Heterogeneity: Tau ² = 0.87; Chi ² = 122.6	3, df = 22	(P < 0.	00001); 1	² = 82%	0			
Test for overall effect: Z = 2.35 (P = 0.02	2)	12	50				0.01 0	0.1 1 10 10 STAT3 - STAT3 +

Supplementary Figure S6: Subgroup analysis of 5-year OS according to STAT3 and p-STAT3 expression in solid tumors. (A) p-STAT3; (B) STAT3; M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; 1: Cohort 1; 2: Cohort 2; N: nuclear expression; C: cytoplasmic expression.



Supplementary Figure S7: Subgroup analysis of OS according to STAT3 and p-STAT3 expression in studies evaluated both STAT3 and p-STAT3. (A) 3-year OS; (B) 5-year OS; M1: Marker 1, STAT3; M2: Marker 2, p-STAT3; N: nuclear expression; C: cytoplasmic expression.

Study or Subgroup	STAT:		STAT		Weight	Odds Ratio	Odds Ratio I M-H, Random, 95% CI
≥1-6%	Evenus	Total	Events	Total	weight	M-H. Random, 95% C	Mi-n, Random, 95% Ci
		~ *			0.70/	0.00 10 10 1 751	
Cortas, T., et al. (2007)	44	84	28	50	3.7%	0.86 [0.43, 1.75]	
Denley, S. M., et al. (2013)-Ser727	6	56	0	30	1.1%	7.85 [0.43, 144.32]	
Denley, S. M., et al. (2013)-Tyr705	6	57	0	29	1.1%	7.45 [0.40, 136.95]	
Lee, I., et al. (2012)	16	63	53	236	3.7%	1.18 [0.62, 2.24]	
Lee, J., et al. (2009)	158	224	47	79	3.9%	1.63 [0.96, 2.78]	
Takemoto, S., et al. (2009)	51	54	56	71	2.8%	4.55 [1.25, 16.65]	
Wang, Y. C., et al. (2011)	24	40	9	36	3.2%	4.50 [1.68, 12.04]	
Woo, S., et al. (2011)	98	179	76	101	3.9%	0.40 [0.23, 0.68]	
Subtotal (95% CI)		757		632	23.4%	1.61 [0.82, 3.17]	
Total events	403		269				
Heterogeneity: Tau ² = 0.62; Chi ² = 32.15, c Test for overall effect: Z = 1.38 (P = 0.17)	df = 7 (P <	0.0001); l ² = 78	%			
≥10-30%							
Chang, K. C., et al. (2006)	24	80	13	38	3.5%	0.82 [0.36, 1.88]	
Chen, C. C., et al. (2010)	32	61	11	34	3.4%	2.31 [0.96, 5.54]	
Chen, H. H., et al. (2012)	63	129	17	36	3.6%	1.07 [0.51, 2.24]	
Deng, J. Y., et al. (2010)	23	27	1	26	1.6%	143.75 [14.95, 1382.11]	
Deng, J., et al. (2013)	13	25	9	89	3.1%	9.63 [3.39, 27.36]	
Horiguchi, Akio., et al. (2002)	22	24	13	24	2.3%	9.31 [1.78, 48.72]	
Huang, C., et al. (2012)	5	32	0	39	1.1%	15.80 [0.84, 297.59]	· · ·
Kim, Yeon-Joo., et al. (2011)	22	28	4	10	2.4%	5.50 [1.16, 26.02]	
Kusaba, T., et al. (2006)	41	46	30	62	3.1%	8.75 [3.05, 25.09]	
Li, Chao., et al. (2013)	43	44	17	36	1.8%	48.06 [5.96, 387.70]	
Min, Hao., et al. (2009)-M1	0	6	13	44	1.1%	0.18 [0.01, 3.42]	· · · · · · · · · · · · · · · · · · ·
Min, Hao., et al. (2009)-M2	12	21	0	29	1.1%	77.63 [4.19, 1439.00]	
Monnien, F., et al. (2010)	43	65	28	39	3.4%	0.77 [0.32, 1.83]	· · · · · ·
Rosen, D. G., et al. (2006)	43	88	69	215	3.9%	2.02 [1.22, 3.36]	
Schoppmann, Sebastian F., et al. (2012)	95	180	36	144	4.0%	3.35 [2.08, 5.40]	· · · · · · · · · · · · · · · · · · ·
Sonnenblick, A., et al. (2012)	69	90	33	35	2.4%	0.20 [0.04, 0.90]	
Xiong, Hua., et al. (2012)-M1	6	14	70	248	3.1%	1.91 [0.64, 5.70]	
Xiong, Hua., et al. (2012)-M2	60	126	16	136	3.8%	6.82 [3.64, 12.78]	
Yakata, Yuichi., et al. (2007)	44	56	21	55	3.5%	5.94 [2.57, 13.73]	
Zhang, C. H., et al. (2012)-M1	9	28	10	72	3.2%	2.94 [1.04, 8.28]	
Zhang, C. H., et al. (2012)-M2	11	42	11	58	3.3%	1.52 [0.59, 3.92]	
Zhao, X., et al. (2012)-M1	6	57	0	71	1.1%	18.05 [0.99, 327.58]	· · · · · · · · · · · · · · · · · · ·
Zhao, X., et al. (2012)-M2	3	66	0	62	1.1%	6.89 [0.35, 136.15]	
Zhao, Yan., et al. (2012)	50	63	42	100	3.6%	5.31 [2.56, 11.00]	
Subtotal (95% CI)	00	1398	42	1702	64.5%	3.48 [2.23, 5.42]	•
Total events	739		464			erre [anne, erra]	
Heterogeneity: Tau ² = 0.77; Chi ² = 96.50, c Test for overall effect: Z = 5.49 (P < 0.000	df = 23 (P -	< 0.000		76%			
≥50%							
Ryu, Keinosuke., et al. (2010)	15	20	11	31	2.8%	5.45 [1.56, 19.06]	
Yang, C., et al. (2013)	14	24	8	25	2.9%	2.98 [0.93, 9.57]	
Yin, Z., et al. (2012)	20	34	18	42	3.3%	1.90 [0.76, 4.76]	+
Zhang, L. J., et al. (2013)	30	41	8	17	2.9%	3.07 [0.95, 9.95]	
Subtotal (95% CI)		119	-	115	12.0%	2.87 [1.65, 4.98]	•
Total events	79	1078	45		1000		
Heterogeneity: Tau ² = 0.00; Chi ² = 1.80, df Test for overall effect: Z = 3.74 (P = 0.0002	= 3 (P = 0	0.62); l²					
Total (95% CI)		2274		2449	100.0%	2.89 [2.01, 4.16]	•
Total events	1221		778	100325	5.577.5467eC		
Heterogeneity: Tau ² = 0.81; Chi ² = 162.88,		< 0.00	10.00	79%			· · · · · ·
Test for overall effect: $Z = 5.73$ (P < 0.000) Test for subaroup differences: Chi ² = 3.47.	01)						0.01 0.1 1 10 10 STAT3 - STAT3 +

Supplementary Figure S8: Subgroup analysis the correlation between STAT3 overexpression and 5-year OS according to cut-off values determining STAT3 positivity. M1: Marker 1, STAT3; M2: Marker 2, p-STAT3.