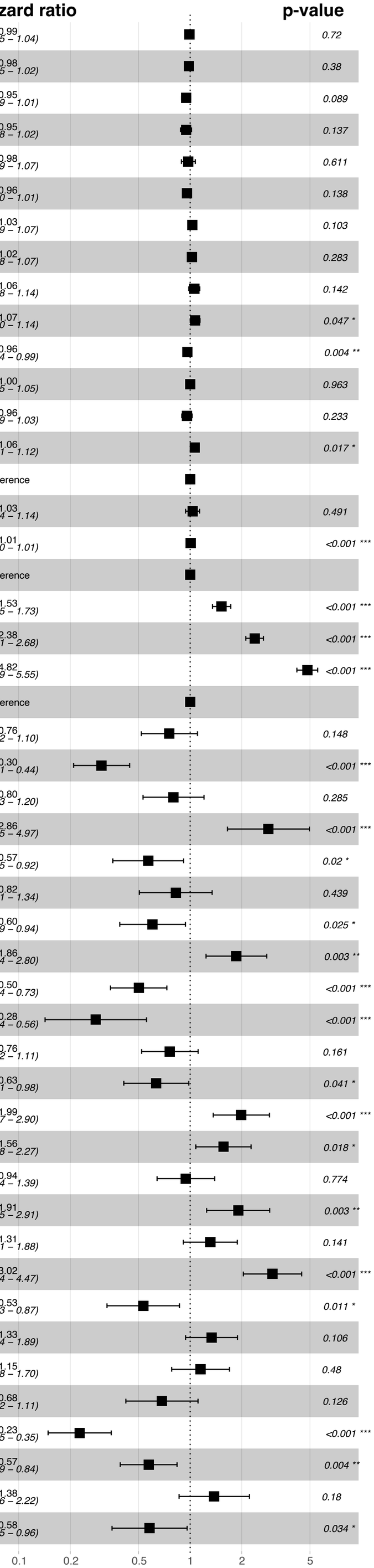
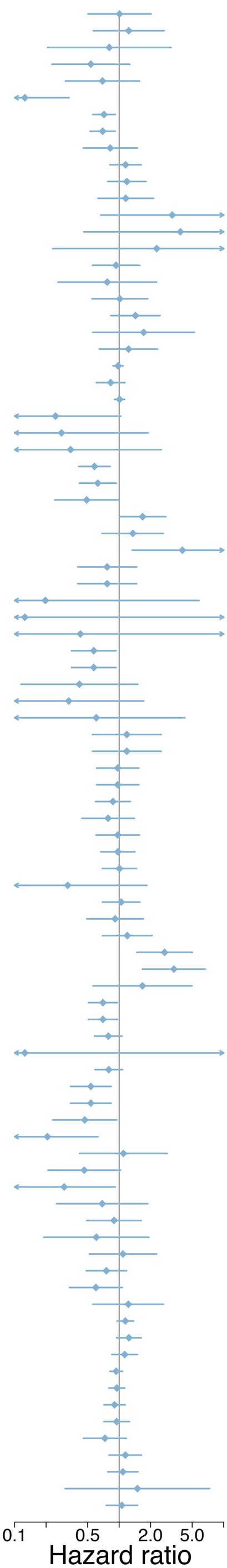
a

Covariate		Hazard ratio	p-value
CD8 T cells	(N=8024)	0.99 (0.95 – 1.04)	0.72
B–cells	(N=8024)	0.98 (0.95 – 1.02)	0.38
CD45	(N=8024)	0.95 (0.89 – 1.01)	0.089
Cytotoxic cells	(N=8024)	0.95 (0.88 – 1.02)	0.137
T–cells	(N=8024)	0.98 (0.89 – 1.07)	0.611
Th1 cells	(N=8024)	0.96 (0.90 – 1.01)	0.138
Treg	(N=8024)	1.03 (0.99 – 1.07)	0.103
DC	(N=8024)	1.02 (0.98 – 1.07)	0.283
Exhausted CD8	(N=8024)	1.06 (0.98 – 1.14)	0.142
Macrophages	(N=8024)	1.07 (1.00 – 1.14)	0.047 *
Mast cells	(N=8024)	0.96 (0.94 – 0.99)	0.004 **
Neutrophils	(N=8024)	1.00 (0.95 – 1.05)	0.963
NK CD56dim cells	(N=8024)	0.96 (0.89 – 1.03)	0.233
NK cells	(N=8024)	1.06 (1.01 – 1.12)	0.017 *
gender	FEMALE (N=4434)	reference	
	MALE (N=3590)	1.03 (0.94 – 1.14)	0.491
age	(N=8024)	1.01 (1.00 – 1.01)	<0.001 ***
stage	I (N=2562)	reference	
	II (N=2335)	1.53 (1.35 – 1.73)	<0.001 ***
	III (N=2151)	2.38 (2.11 – 2.68)	<0.001 ***
	IV (N=976)	4.82 (4.19 – 5.55)	<0.001 ***
type	ACC (N=77)	reference	
	BLCA (N=406)	0.76 (0.52 – 1.10)	0.148
	BRCA (N=1070)	0.30 (0.21 – 0.44)	<0.001 ***
	CESC (N=297)	0.80 (0.53 – 1.20)	0.285
	CHOL (N=36)	2.86 (1.65 – 4.97)	<0.001 ***
	COAD (N=177)	0.57 (0.35 – 0.92)	0.02 *
	COAD_MSI (N=95)	0.82 (0.51 – 1.34)	0.439
	COAD_MSS (N=165)	0.60 (0.39 – 0.94)	0.025 *
	ESCA (N=178)	1.86 (1.24 – 2.80)	0.003 **
	HNSC (N=519)	0.50 (0.34 – 0.73)	<0.001 ***
	KICH (N=66)	0.28 (0.14 – 0.56)	<0.001 ***
	KIRC (N=530)	0.76 (0.52 – 1.11)	0.161
	KIRP (N=267)	0.63 (0.41 – 0.98)	0.041 *
	LIHC (N=345)	1.99 (1.37 – 2.90)	<0.001 ***
	LUAD (N=488)	1.56 (1.08 – 2.27)	0.018 *
	LUSC (N=488)	0.94 (0.64 – 1.39)	0.774
	MESO (N=87)	1.91 (1.25 – 2.91)	0.003 **
	OV (N=303)	1.31 (0.91 – 1.88)	0.141
	PAAD (N=175)	3.02 (2.04 – 4.47)	<0.001 ***
	READ (N=150)	0.53 (0.33 – 0.87)	0.011 *
	SKCM (N=419)	1.33 (0.94 – 1.89)	0.106
	STAD (N=385)	1.15 (0.78 – 1.70)	0.48
	TGCT (N=133)	0.68 (0.42 – 1.11)	0.126
	THCA (N=503)	0.23 (0.15 – 0.35)	<0.001 ***
	UCEC (N=528)	0.57 (0.39 – 0.84)	0.004 **
	UCS (N=57)	1.38 (0.86 – 2.22)	0.18
	UVM (N=80)	0.58 (0.35 – 0.96)	0.034 *



Events: 2655; Global p–value (Log–Rank): 0
AIC: 42438.16; Concordance Index: 0.74

b

Cancer	Gender	HR	CI–95	p–value
READ	All	1.01	(0.50–2.02)	0.982
READ	Male	1.24	(0.56–2.70)	0.597
READ	Female	0.80	(0.21–3.13)	0.754
MESO	All	0.54	(0.23–1.26)	0.154
MESO	Male	0.69	(0.31–1.57)	0.378
MESO	Female	0.12	(0.00–0.33)	<0.05
HNSC	All	0.72	(0.56–0.92)	<0.05
HNSC	Male	0.70	(0.53–0.92)	<0.05
HNSC	Female	0.82	(0.45–1.49)	0.517
KIRC	All	1.15	(0.81–1.63)	0.424
KIRC	Male	1.19	(0.78–1.81)	0.433
KIRC	Female	1.16	(0.63–2.14)	0.644
PCPG	All	3.22	(0.67–15.57)	0.146
PCPG	Male	3.85	(0.46–32.45)	0.215
PCPG	Female	2.29	(0.23–22.65)	0.479
THCA	All	0.93	(0.55–1.57)	0.798
THCA	Male	0.77	(0.26–2.28)	0.636
THCA	Female	1.02	(0.55–1.88)	0.961
UVM	All	1.43	(0.83–2.47)	0.195
UVM	Male	1.72	(0.56–5.28)	0.346
UVM	Female	1.23	(0.65–2.34)	0.526
LIHC	All	0.98	(0.87–1.09)	0.687
LIHC	Male	0.83	(0.61–1.14)	0.245
LIHC	Female	1.01	(0.90–1.13)	0.879
CHOL	All	0.25	(0.06–1.04)	0.056
CHOL	Male	0.28	(0.04–1.90)	0.193
CHOL	Female	0.34	(0.05–2.53)	0.294
BLCA	All	0.58	(0.41–0.82)	<0.05
BLCA	Male	0.62	(0.41–0.94)	<0.05
BLCA	Female	0.49	(0.24–0.99)	<0.05
KIRP	All	1.68	(1.01–2.80)	<0.05
KIRP	Male	1.35	(0.69–2.66)	0.382
KIRP	Female	4.03	(1.33–12.23)	<0.05
TGCT	All	0.77	(0.40–1.47)	0.426
TGCT	Male	0.77	(0.40–1.47)	0.426
KICH	All	0.20	(0.01–5.80)	0.346
KICH	Male	0.12	(0.00–12.86)	0.361
KICH	Female	0.43	(0.00–50.43)	0.726
OV	All	0.57	(0.35–0.93)	<0.05
OV	Female	0.57	(0.35–0.93)	<0.05
GBM	All	0.42	(0.11–1.51)	0.182
GBM	Male	0.33	(0.06–1.72)	0.188
GBM	Female	0.60	(0.09–4.26)	0.613
UCS	All	1.18	(0.55–2.52)	0.663
UCS	Female	1.18	(0.55–2.52)	0.663
PRAD	All	0.97	(0.61–1.54)	0.895
PRAD	Male	0.97	(0.61–1.54)	0.895
PAAD	All	0.87	(0.59–1.28)	0.485
PAAD	Male	0.78	(0.44–1.40)	0.410
PAAD	Female	0.97	(0.60–1.57)	0.898
ESCA	All	0.97	(0.67–1.42)	0.883
ESCA	Male	1.01	(0.69–1.47)	0.969
ESCA	Female	0.32	(0.06–1.84)	0.203
SARC	All	1.05	(0.69–1.58)	0.831
SARC	Male	0.91	(0.49–1.71)	0.780
SARC	Female	1.20	(0.69–2.07)	0.521
LGG	All	2.72	(1.48–5.01)	<0.05
LGG	Male	3.34	(1.66–6.71)	<0.05
LGG	Female	1.67	(0.56–4.98)	0.357
UCEC	All	0.70	(0.51–0.96)	<0.05
UCEC	Female	0.70	(0.51–0.96)	<0.05
BRCA	All	0.79	(0.58–1.07)	0.124
BRCA	Male	0.12	(0.00–187.57)	0.392
BRCA	Female	0.80	(0.59–1.08)	0.141
CESC	All	0.54	(0.34–0.84)	<0.05
CESC	Female	0.54	(0.34–0.84)	<0.05
COAD_MSS	All	0.47	(0.23–0.95)	<0.05
COAD_MSS	Male	0.21	(0.07–0.63)	<0.05
COAD_MSS	Female	1.10	(0.42–2.88)	0.848
COAD	All	0.46	(0.21–1.03)	0.060
COAD	Male	0.30	(0.10–0.92)	<0.05
COAD	Female	0.69	(0.25–1.88)	0.467
COAD_MSI	All	0.89	(0.49–1.63)	0.714
COAD_MSI	Male	0.60	(0.19–1.93)	0.395
COAD_MSI	Female	1.09	(0.52–2.29)	0.824
LUSC	All	0.75	(0.48–1.18)	0.213
LUSC	Male	0.60	(0.33–1.07)	0.085
LUSC	Female	1.22	(0.56–2.67)	0.614
STAD	All	1.15	(0.96–1.37)	0.143
STAD	Male	1.24	(0.94–1.63)	0.122
STAD	Female	1.13	(0.85–1.50)	0.395
SKCM	All	0.94	(0.81–1.08)	0.364
SKCM	Male	0.95	(0.80–1.13)	0.568
SKCM	Female	0.90	(0.72–1.14)	0.394
LUAD	All	0.95	(0.71–1.26)	0.704
LUAD	Male	0.73	(0.46–1.17)	0.192
LUAD	Female	1.15	(0.80–1.64)	0.456
ACC	All	1.09	(0.78–1.52)	0.628
ACC	Male	1.50	(0.30–7.35)	0.620
ACC	Female	1.06	(0.75–1.50)	0.738