

Supplementary table 1: The gene nodes overlapped among four subnets for pairwise compare

NET	Gene name	Cancer subtype	Omics	Target of the gene	The parameter of the interaction
HER2-TNBC	ZNF441	HER2	Methylation	C1orf112_r	0.943489
		TNBC	mRNA	BCL2L1_m	-0.04702
HER2-LUA	FUT3	HER2	Methylation	C1orf112_r	-0.07164
		LUA	mRNA	GSR_m	-0.784
HER2-LUB	FUT3	HER2	Methylation	C1orf112_r	-0.07164
		LUB	mRNA	GSR_m	-0.73699
TNBC-LUA	UBXN10	TNBC	mRNA	BCL2L1_m	-0.25215
		LUA	mRNA	TMEM26_m	-0.00677
	C2orf54	TNBC	mRNA	ATP5E_m	0.132613
	LUA	mRNA	GSR_m	-0.12975	
TNBC-LUB	FBXO36	TNBC	mRNA	BCL2L1_m	-0.19961
		LUA	mRNA	TMEM26_m	-0.00614
	C2orf54	TNBC	mRNA	ATP5E_m	0.132613
	LUB	mRNA	GSR_m	-0.26863	
	FBXO36	TNBC	mRNA	BCL2L1_m	-0.19961
		LUB	mRNA	TMEM26_m	-0.00602
	ACADSB	LUA	mRNA	GSR_m	0.534461
		LUB	mRNA	GSR_m	0.532843
	ACSL1	LUA	mRNA	TMEM26_m	0.335593
		LUB	mRNA	TMEM26_m	0.321381
	ACTB	LUA	mRNA	GSR_m	-0.06638
		LUB	mRNA	GSR_m	-0.07303
	AFF3	LUA	mRNA	GSR_m	0.291915
		LUB	mRNA	GSR_m	0.346341
AFTPH	LUA	mRNA	TMEM26_m	-0.02386	
	LUB	mRNA	TMEM26_m	-0.02123	
AIM2	LUA	mRNA	TMEM26_m	0.087064	
	LUB	mRNA	TMEM26_m	0.072297	
AMFR	LUA	mRNA	GSR_m	0.015268	
	LUB	mRNA	GSR_m	0.068691	
AP1AR	LUA	mRNA	TMEM26_m	-0.07107	
	LUB	mRNA	TMEM26_m	-0.06707	
LUA-LUB	ARSG	LUA	mRNA	GSR_m	0.736897
		LUB	mRNA	GSR_m	0.691184
	ASB16	LUA	mRNA	GSR_m	0.287331
		LUB	mRNA	GSR_m	0.361801
	ATP13A5	LUA	mRNA	GSR_m	-0.4153
		LUB	mRNA	GSR_m	-0.43952
	B3GNT3	LUA	mRNA	GSR_m	-0.32381
		LUB	mRNA	GSR_m	-0.01339
	BCL2	LUA	mRNA	GSR_m	0.585404
		LUB	mRNA	GSR_m	0.655829
	BTRC	LUA	mRNA	GSR_m	0.319118
		LUB	mRNA	GSR_m	0.315406
	C15orf39	LUA	mRNA	TMEM26_m	0.004311
		LUB	mRNA	TMEM26_m	0.014483
C16orf46	LUA	mRNA	TMEM26_m	-0.01849	
	LUB	mRNA	TMEM26_m	-0.02404	
C1orf173	LUA	mRNA	TMEM26_m	-0.28602	

	LUB	mRNA	TMEM26_m	-0.30349
C2orf54	LUA	mRNA	GSR_m	-0.12975
	LUB	mRNA	GSR_m	-0.26863
C6orf211	LUA	mRNA	GSR_m	0.150985
	LUB	mRNA	GSR_m	0.219634
CBR3	LUA	mRNA	TMEM26_m	0.064463
	LUB	mRNA	TMEM26_m	0.081144
CCDC30	LUA	mRNA	TMEM26_m	-0.01254
	LUB	mRNA	TMEM26_m	-0.02141
CCND1	LUA	mRNA	GSR_m	0.233932
	LUB	mRNA	GSR_m	0.224404
CIB2	LUA	mRNA	GSR_m	-0.20502
	LUB	mRNA	GSR_m	-0.02265
CLCA2	LUA	mRNA	GSR_m	-1.606
	LUB	mRNA	GSR_m	-1.60462
CNTD1	LUA	mRNA	GSR_m	0.049044
	LUB	mRNA	GSR_m	0.071867
CRYZ	LUA	mRNA	TMEM26_m	-0.09399
	LUB	mRNA	TMEM26_m	-0.0929
CSRP2	LUA	mRNA	GSR_m	-0.06381
	LUB	mRNA	GSR_m	-0.14012
CST9	LUA	mRNA	GSR_m	1.114511
	LUB	mRNA	GSR_m	1.191836
DBNDD2	LUA	mRNA	GSR_m	0.328272
	LUB	mRNA	GSR_m	0.314808
DDIT4	LUA	mRNA	GSR_m	-0.39314
	LUB	mRNA	GSR_m	-0.49399
ELP2	LUA	mRNA	GSR_m	0.141806
	LUB	mRNA	GSR_m	0.18384
ENO1	LUA	mRNA	GSR_m	-0.02099
	LUB	mRNA	GSR_m	-0.06015
FAM134A	LUA	mRNA	GSR_m	0.07237
	LUB	mRNA	GSR_m	0.081694
FAM196A	LUA	mRNA	GSR_m	1.077994
	LUB	mRNA	GSR_m	1.220531
FBXO36	LUA	mRNA	TMEM26_m	-0.00614
	LUB	mRNA	TMEM26_m	-0.00602
FLJ35390	LUA	mRNA	GSR_m	0.273765
	LUB	mRNA	GSR_m	0.273878
FUT3	LUA	mRNA	GSR_m	-0.78401
	LUB	mRNA	GSR_m	-0.73699
IGF1R	LUA	mRNA	GSR_m	0.242255
	LUB	mRNA	GSR_m	0.350143
IQCH	LUA	mRNA	TMEM26_m	-0.0666
	LUB	mRNA	TMEM26_m	-0.02864
KCNG1	LUA	mRNA	TMEM26_m	0.034232
	LUB	mRNA	TMEM26_m	0.005442
KDM4B	LUA	mRNA	TMEM26_m	-0.05832
	LUB	mRNA	TMEM26_m	-0.08003
LOC100190938	LUA	mRNA	GSR_m	0.425167
	LUB	mRNA	GSR_m	0.454234
LOC150622	LUA	mRNA	GSR_m	-1.30398

	LUB	mRNA	GSR_m	-1.30535
LRRC48	LUA	mRNA	TMEM26_m	-0.04016
	LUB	mRNA	TMEM26_m	-0.02379
LYPD6B	LUA	mRNA	GSR_m	0.4686
	LUB	mRNA	GSR_m	0.516422
LZTFL1	LUA	mRNA	TMEM26_m	-0.01555
	LUB	mRNA	TMEM26_m	-0.0053
MAP3K6	LUA	mRNA	GSR_m	-0.17137
	LUB	mRNA	GSR_m	-0.2332
MARCO	LUA	mRNA	TMEM26_m	0.049862
	LUB	mRNA	TMEM26_m	0.017425
MRPS30	LUA	mRNA	GSR_m	0.048612
	LUB	mRNA	GSR_m	0.008718
MYB	LUA	mRNA	TMEM26_m	-0.23266
	LUB	mRNA	TMEM26_m	-0.25012
NKAIN1	LUA	mRNA	GSR_m	1.686245
	LUB	mRNA	GSR_m	1.864267
NLK	LUA	mRNA	GSR_m	0.148825
	LUB	mRNA	GSR_m	0.153089
NMNAT3	LUA	mRNA	GSR_m	0.162266
	LUB	mRNA	GSR_m	0.110776
NT5DC2	LUA	mRNA	GSR_m	-0.35199
	LUB	mRNA	GSR_m	-0.38072
NXNL2	LUA	mRNA	TMEM26_m	-0.17253
	LUB	mRNA	TMEM26_m	-0.06379
NXPH3	LUA	mRNA	GSR_m	0.217581
	LUB	mRNA	GSR_m	0.094851
PARD6B	LUA	mRNA	GSR_m	0.570322
	LUB	mRNA	GSR_m	0.611355
PCBP3	LUA	mRNA	TMEM26_m	0.018622
	LUB	mRNA	TMEM26_m	0.023082
PCSK6	LUA	mRNA	GSR_m	0.987837
	LUB	mRNA	GSR_m	0.881802
PKIB	LUA	mRNA	TMEM26_m	-0.04846
	LUB	mRNA	TMEM26_m	-0.0494
PSMB9	LUA	mRNA	TMEM26_m	0.022845
	LUB	mRNA	TMEM26_m	0.017774
PTGER3	LUA	mRNA	TMEM26_m	-0.11904
	LUB	mRNA	TMEM26_m	-0.10137
PVRL1	LUA	mRNA	GSR_m	-0.12553
	LUB	mRNA	GSR_m	-0.20021
RABEP1	LUA	mRNA	TMEM26_m	-0.02382
	LUB	mRNA	TMEM26_m	-0.02075
RLN2	LUA	mRNA	TMEM26_m	-0.15228
	LUB	mRNA	TMEM26_m	-0.15174
RMND1	LUA	mRNA	TMEM26_m	-0.08257
	LUB	mRNA	TMEM26_m	-0.07566
S100A11	LUA	mRNA	GSR_m	-0.37756
	LUB	mRNA	GSR_m	-0.34311
SLC15A2	LUA	mRNA	GSR_m	-0.03405
	LUB	mRNA	GSR_m	-0.03935
SLC1A2	LUA	mRNA	GSR_m	0.386792

	LUB	mRNA	GSR_m	0.452976
SLC39A6	LUA	mRNA	GSR_m	0.81396
	LUB	mRNA	GSR_m	0.908434
SLC46A1	LUA	mRNA	GSR_m	0.069057
	LUB	mRNA	GSR_m	0.075914
SLC4A11	LUA	mRNA	GSR_m	-0.21268
	LUB	mRNA	GSR_m	-0.22081
SPEF2	LUA	mRNA	TMEM26_m	-0.0807
	LUB	mRNA	TMEM26_m	-0.07274
SRD5A1	LUA	mRNA	GSR_m	-0.22938
	LUB	mRNA	GSR_m	-0.18932
SUSD3	LUA	mRNA	TMEM26_m	-0.22236
	LUB	mRNA	TMEM26_m	-0.21653
TBC1D9	LUA	mRNA	GSR_m	0.297415
	LUB	mRNA	GSR_m	0.276464
TMPRSS6	LUA	mRNA	GSR_m	0.744515
	LUB	mRNA	GSR_m	0.695653
TTC8	LUA	mRNA	TMEM26_m	-0.00592
	LUB	mRNA	TMEM26_m	-0.00788
UGCG	LUA	mRNA	GSR_m	0.414532
	LUB	mRNA	GSR_m	0.466043
ULK2	LUA	mRNA	GSR_m	0.285455
	LUB	mRNA	GSR_m	0.338824
ULK4	LUA	mRNA	TMEM26_m	-0.09006
	LUB	mRNA	TMEM26_m	-0.05567
USP30	LUA	mRNA	GSR_m	0.005211
	LUB	mRNA	GSR_m	0.023441
VAV3	LUA	mRNA	TMEM26_m	-0.05888
	LUB	mRNA	TMEM26_m	-0.06213
VPS37B	LUA	mRNA	TMEM26_m	0.056093
	LUB	mRNA	TMEM26_m	0.064213
WDR19	LUA	mRNA	TMEM26_m	-0.01747
	LUB	mRNA	TMEM26_m	-0.01462
WNT3	LUA	mRNA	GSR_m	0.54746
	LUB	mRNA	GSR_m	0.666958
WWP1	LUA	mRNA	TMEM26_m	-0.09707
	LUB	mRNA	TMEM26_m	-0.07946
YBX1	LUA	mRNA	GSR_m	-0.02536
	LUB	mRNA	GSR_m	-0.07642
ZNF396	LUA	mRNA	GSR_m	0.044312
	LUB	mRNA	GSR_m	0.002039
ZNF680	LUA	mRNA	TMEM26_m	-0.05367
	LUB	mRNA	TMEM26_m	-0.05027
ZNF92	LUA	mRNA	TMEM26_m	-0.13199
	LUB	mRNA	TMEM26_m	-0.15909
TLE3	LUA	mRNA	GSR_m	0.098267
	LUB	mRNA	GSR_m	0.121977
GSR	LUA	mRNA/ Methylation	GSR_m/ BECN1_r/*	-1.0737 0.100559
	LUB	mRNA/ Methylation	GSR_m/ BECN1_r/*	-0.96826 0.123594
	LUA	mRNA	TMEM26_m/	-0.00375/

			GSR_m	0.041959
	LUB	mRNA	GSR_m	0.11108
TMEM26	LUA	mRNA/ methylation	TMEM26_m/ BECN1_r	-1.87465 -0.00412
	LUB	mRNA/ methylation	TMEM26_m/ BECN1_r/*	-1.98094 -0.00558
XBP1	LUA	mRNA	TMEM26_m/ GSR_m	-0.02557/ 0.020689
	LUB	mRNA	TMEM26_m	-0.06523
RERG	LUA	mRNA	GSR_m/ TMEM26_m	0.426999/ -0.06607
	LUB	mRNA	GSR_m/ TMEM26_m	0.597781/ -0.07976
C11orf75	LUA	mRNA	TMEM26_m	0.01065
	LUB	mRNA	TMEM26_m/ GSR_m	0.008158/ -0.00021
SLC16A6	LUA	mRNA	GSR_m/ TMEM26_m	0.467657/ -0.21827
	LUB	mRNA	GSR_m/ TMEM26_m	0.417799/ -0.20886
LPPR3	LUA	mRNA	GSR_m/ TMEM26_m	1.233367/ -0.41385
	LUB	mRNA	GSR_m/ TMEM26_m	1.362261/ -0.44396
C9orf64	LUA	mRNA	TMEM26_m/ GSR_m	-0.21827/ 0.467657
	LUB	mRNA	TMEM26_m/ GSR_m	-0.01534/ 0.23806

\* represents that there are other genes associated with marked targets, but the connections have been shown in the table.