



**Supplementary Table 1: List of paradoxical genes with their chromosomal location, along with robust rank score and expression status as obtained from integrative gene expression analysis**

See Supplementary File 1

Supplementary Table 2: List of deregulated miRNAs along with their expressions obtained from TCGA miRNAseq data

miRNA	Integrative analysis		TCGA expression:	
	Corr. score	Status	logFC	Adj. P-val.
hsa-mir-126	2.91E-07	down	-0.03	8.63E-01
hsa-mir-130b*	2.07E-03	up	1.86	8.00E-29
hsa-mir-135b*	1.15E-03	up	2.94	1.08E-29
hsa-mir-139*	9.36E-04	down	-1.87	4.82E-25
hsa-mir-143*	3.72E-03	down	-1.96	2.20E-24
hsa-mir-144*	1.83E-02	down	-2.56	2.08E-21
hsa-mir-145	2.38E-05	down	-0.59	1.04E-03
hsa-mir-16	4.85E-02	down	0.62	4.33E-06
hsa-mir-182*	3.19E-09	up	2.69	1.19E-53
hsa-mir-183*	1.59E-05	up	2.52	1.08E-43
hsa-mir-191	2.02E-02	up	0.95	1.07E-12
hsa-mir-195*	3.22E-03	down	-1.58	1.16E-27
hsa-mir-196a*	3.58E-02	up	3.49	1.26E-12
hsa-mir-196b*	3.43E-02	up	2.13	2.12E-08
hsa-mir-200a*	4.14E-02	up	2.29	4.54E-34
hsa-mir-200b*	1.67E-02	up	1.20	4.31E-11
hsa-mir-21*	8.32E-14	up	2.92	6.24E-85
hsa-mir-210*	5.59E-09	up	5.26	3.30E-59
hsa-mir-218*	1.39E-04	down	-1.34	1.66E-22
hsa-mir-30a*	4.00E-05	down	-1.83	5.63E-22
hsa-mir-31*	3.42E-02	up	2.62	4.05E-12
hsa-mir-34c	3.74E-02	down	-0.97	6.26E-03
hsa-mir-486*	8.16E-03	down	-3.57	2.48E-39
hsa-mir-9*	9.67E-06	up	4.49	1.50E-30

Asterisks next to a miRNA name indicates miRNAs validated in the TCGA LUAD data.

**Supplementary Table 3: Evaluation of the prognostic properties of the 70 validated paradoxical genes**

See Supplementary File 1

**Supplementary Data 1: Frequencies and statistical significance of the CNAs as obtained from the integrative analysis of the three aCGH datasets**

See Supplementary File 2

**Supplementary Data 2: Results of the robust-rank integrative analysis of the gene expression datasets**

See Supplementary File 3

**Supplementary Data 3: Results of the robust-rank meta-analysis of the miRNA expression reports**

See Supplementary File 4

**Supplementary Data 4: Results of the pathway enrichment analysis as obtained from pathDIP**

See Supplementary File 5