

Supplementary Table 1: Hypoxia gene signatures.

Toustrup et al. 15-gene signature	Eustace et al. 26-gene signature
ADM	ALDOA
ALDOA	ANGPTL4
ANKRD37	ANLN
BNIP3	BNC1
BNIP3L	C20orf20 (MRGBP)
C3orf28 (FAM162A)	CA9
EGLN3	CDKN3
KCTD11	COL4A6
LOX	DCBLD1
NDRG1	ENO1
P4HA1	FAM83B
P4HA2	FOSL1
PDK1	GNAI1
PFKFB3	HIG2 (HILPDA)
SLC2A1	KCTD11
	KRT17
Reference genes	LDHA
ACTR3	MPRS17
NDFIP1	P4HA1
RPL37A	PGAM1
	PGK1
	SDC1
	SLC16A1
	SLC2A1
	TPI1
	VEGFA
	Reference genes
	B2M
	GNB2L1
	RPL11

Supplementary Table 2: Cluster centres (after normalisation with reference genes) for less and more hypoxic tumours based on the training cohort.

Gene	15-gene signature		Gene	26-gene signature	
	Less hypoxic	More hypoxic		Less hypoxic	More hypoxic
ADM	-2.6347	-1.2839	ALDOA	-0.4379	0.1030
ALDOA	0.8366	1.3703	ANGPTL4	-7.3683	-6.3079
ANKRD37	-4.8115	-4.0562	ANLN	-5.4528	-4.7166
BNIP3	-4.0586	-3.1231	BNC1	-6.0501	-4.2631
BNIP3L	-2.1733	-1.8368	C20orf20 (MRGBP)	-5.7590	-5.1675
C3orf28 (FAM162A)	-2.9147	-2.4720	CA9	-7.5868	-6.4287
EGLN3	-4.4919	-3.0034	CDKN3	-5.6103	-5.1894
KCTD11	-2.7763	-1.8137	COL4A6	-9.2150	-7.3027
LOX	-3.9948	-2.7881	DCBLD1	-6.9690	-5.7177
NDRG1	-0.0891	1.4563	ENO1	-1.2078	-0.6848
P4HA1	-4.2572	-3.6907	FAM83B	-5.5478	-4.3167
P4HA2	-3.2070	-2.4074	FOSL1	-6.6483	-4.6834
PDK1	-3.5854	-3.5530	GNAI1	-5.0089	-3.9085
PFKFB3	-2.3565	-1.7530	HIG2 (HILPDA)	-5.7354	-4.8604
SLC2A1	-1.4776	0.0190	KCTD11	-4.1258	-3.0605
			KRT17	-0.2975	2.2981
			LDHA	-7.6863	-6.8761
			MPRS17	-5.0850	-4.5702
			P4HA1	-5.5157	-4.9698
			PGAM1	-2.2797	-1.7089
			PGK1	-2.2303	-1.6821
			SDC1	-3.2086	-2.2377
			SLC16A1	-5.1258	-3.9567
			SLC2A1	-2.7382	-1.3110
			TPI1	-8.0022	-7.5209
			VEGFA	-3.8111	-3.1449