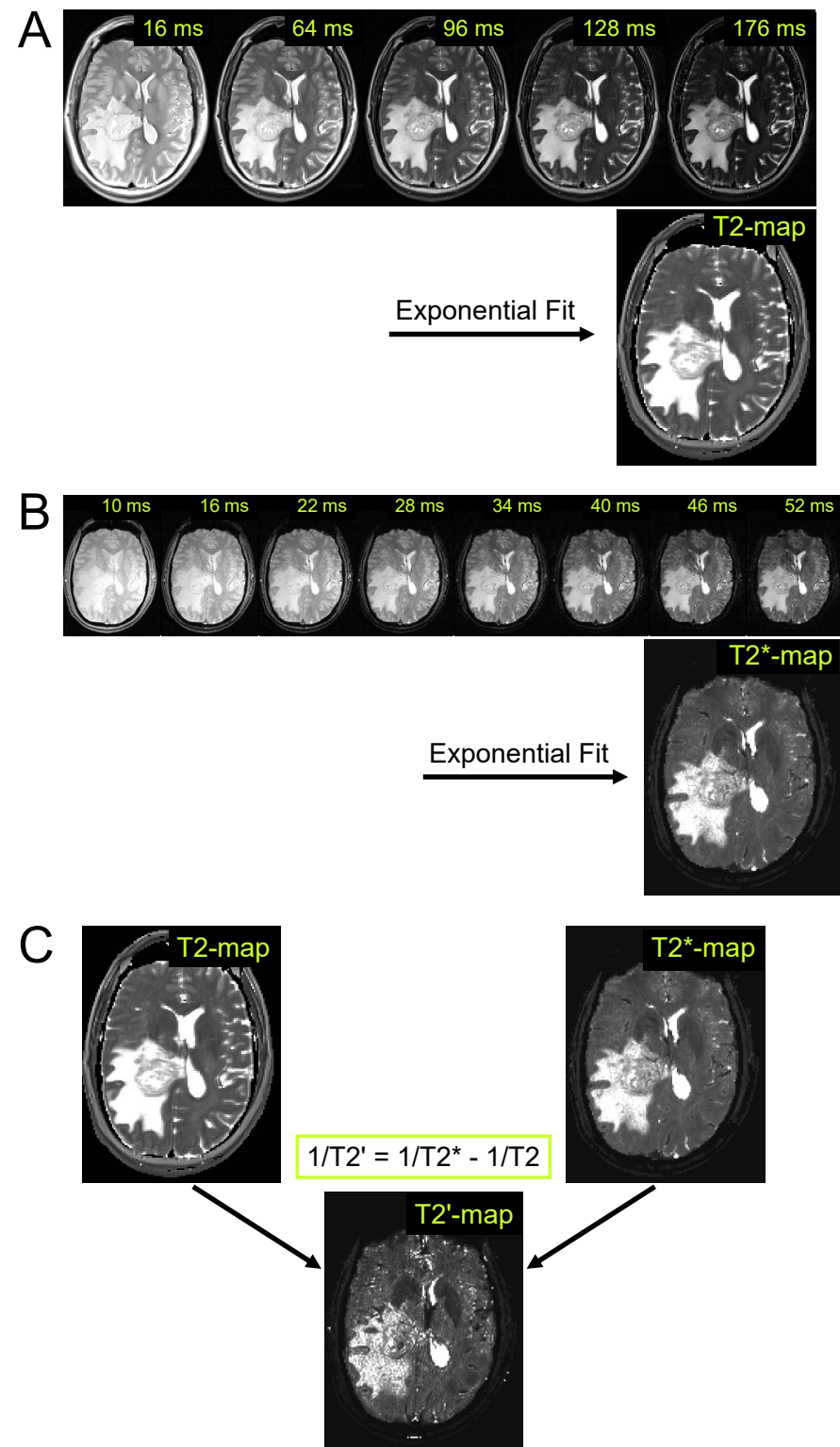


Supplementary Figure S1



Supplementary Table S1

Analysis of all 25 *IDH*-wildtype gliomas (n = 25) and those gliomas that histologically had been classified as glioblastomas (n = 23). Groups of non-tumor versus tumor samples and groups of samples with vascular proliferates (vasc.) versus samples without (no vasc.) were compared using the Welch's t-test. Note that biopsy specimens from the two patients with astrocytoma did not show vascular proliferates. N.s.: not significant.

All gliomas (25)	parameter	group	mean	median	p
	T1	no tumor	1408	1429	0.005
		tumor	1622	1537	
	T2	no tumor	1318	1156	0.013
		tumor	1802	1356	
	T2*	no tumor	665	537	n.s.
		tumor	796	687	
	T2'	no tumor	1816	1657	n.s.
		tumor	2004	1672	
	T1rel	no tumor	0.305	0.377	0.009
		tumor	0.445	0.534	
Glioblastomas (23)	parameter	group	mean	median	p
	T1	no tumor	1360	1231	0.001
		tumor	1598	1510	
	T2	no tumor	1337	1153	0.029
		tumor	1837	1367	
	T2*	no tumor	673	537	n.s.
		tumor	813	700	
	T2'	no tumor	1784	1685	n.s.
		tumor	1998	1685	
	T1rel	no tumor	0.279	0.309	0.002
		tumor	0.444	0.534	
All gliomas (25)	parameter	group	mean	median	p
	T1	no vasc.	1502	1470	n.s. (0.053)
		vasc.	1622	1576	
	T2	no vasc.	1765	1263	n.s. (0.080)
		vasc.	1422	1288	
	T2*	no vasc.	756	668	n.s.
		vasc.	755	608	
	T2'	no vasc.	1823	1551	n.s.
		vasc.	1977	1684	
	T1rel	no vasc.	0.385	0.475	0.033
		vasc.	0.451	0.569	
Glioblastomas (23)	parameter	group	mean	median	p
	T1	no vasc.	1467	1389	0.018
		vasc.	1622	1576	
	T2	no vasc.	1877	1359	0.033
		vasc.	1422	1288	
	T2*	no vasc.	794	720	n.s.
		vasc.	755	608	
	T2'	no vasc.	1885	1624	n.s.
		vasc.	1977	1684	
	T1rel	no vasc.	0.385	0.475	0.033
		vasc.	0.451	0.569	

Supplementary Table S2: Correlations of qMRI parameters and neuropathological features in glioblastoma samples. Significant correlations are highlighted in grey. r_s = Spearman correlation coefficient, p = p-value.

	cell density [cells/mm ²]		vessel density [vessels/mm ²]		necrosis [%]		CAIX [%]		LDHA [%]		Ki67 [%]	
	r_s	p	r_s	p	r_s	p	r_s	p	r_s	p	r_s	p
T1	0.001	0.990	-0.234	<0.001	0.081	0.166	0.084	0.193	0.240	<0.001	0.007	0.911
T1rel	0.123	0.041	-0.037	0.578	-0.193	0.002	-0.201	0.002	0.070	0.292	0.144	0.036
T2	-0.009	0.874	-0.190	0.003	-0.123	0.039	-0.025	0.698	0.143	0.028	0.073	0.276
T2*	-0.010	0.859	-0.230	<0.001	-0.116	0.053	-0.017	0.797	0.208	0.001	0.015	0.818
T2'	-0.011	0.854	-0.262	<0.001	-0.044	0.463	-0.118	0.074	0.064	0.334	0.079	0.240

Supplementary Table S3: Correlations between histopathological features in glioblastoma samples. Significant correlations are highlighted in grey. r_s = Spearman correlation coefficient, p = p-value.

	cell density [cells/mm ²]		vessel density [vessels/mm ²]		necrosis [%]		CAIX [%]		LDHA [%]	
	r_s	p	r_s	p	r_s	p	r_s	p	r_s	p
vessel density [vessels/mm ²]	0.278	<0.001								
necrosis [%]	-0.357	<0.001	-0.157	0.015						
CAIX [%]	0.033	0.611	-0.094	0.150	0.549	<0.001				
LDHA [%]	0.202	0.002	-0.052	0.421	0.442	<0.001	0.591	<0.001		
Ki67 [%]	0.325	<0.001	0.137	0.040	-0.156	0.021	-0.106	0.113	0.036	0.594