

**Table SI.** Lateralization of molecular alterations in glioma and glioblastoma.

First author/s, year	Mutation	No. of patients	Lateralization		(Refs.)
Ellingson <i>et al</i> , 2013	PTEN loss	507 GBM (95 PTEN loss)	Frontal lobe		(36)
Ellingson <i>et al</i> , 2013	EGFR amplification	507 GBM (136 EGFR <sup>+</sup> )	Left temporal lobe		(36)
Kudulaiti <i>et al</i> , 2019	IDH1 mutation	86 GBM (48 IDH1mut)		Right hemisphere	(88)
Ellingson <i>et al</i> , 2012	MGMT methylation	358 GBM (128 MGMT meth)	Left hemisphere		(98)
Wang <i>et al</i> , 2015	TP53 mutation	182 LGG (116 TP53mut)	Left medial temporal lobe	Right anterior temporal lobe	(101)
Zang <i>et al</i> , 2014		163 GBM (69 TP53mut)		Right frontal lobe	(102)
Hu <i>et al</i> , 2022	PDGFRA amplification	15 Glioma (12 PDGFRA <sup>+</sup> )	Frontal lobe		(108)
Costa and Gutmann, 2019	NF1 mutation	N/A	Left brainstem	29.80%	(105)
Lobbous <i>et al</i> , 2020		200 HGG and LGG (192 NF1mut)	Left cerebellum		(106)
Meng <i>et al</i> , 2022	ATRX mutation	123 Glioma (84 ATRXmut)	Frontal, temporal, parietal, occipital lobes		(110)

PTEN, phosphatase and tensin homolog; GBM, glioblastoma multiforme; EGFR, epidermal growth factor receptor; IDH1, isocitrate dehydrogenase [NADP(+)] 1; mut, mutation; MGMT, *O*<sup>6</sup>-methylguanine-DNA methyltransferase; meth, methylation; TP53, tumor protein 53; LGG, low grade glioma; PDGFRA, platelet-derived growth factor receptor- $\alpha$ ; NF1, neurofibromin 1; N/A, not available; HGG, high grade glioma; ATRX, ATRX chromatin remodeler.