

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Clinical information for discovery and validation cohorts

File Name: Supplementary Data 2

Description: Summary of molecular markers

File Name: Supplementary Data 3

Description: Whole exome sequencing information

File Name: Supplementary Data 4

Description: Summary of the somatic coding mutations (by WES) in the discovery cohort of *TERT*^{WT}-*IDH*^{WT} gliomas (n=25)

File Name: Supplementary Data 5

Description: Summary of the copy number alterations (by WES) in the discovery cohort of *TERT*^{WT}-*IDH*^{WT} gliomas (n=25)

File Name: Supplementary Data 6

Description: Significantly mutated genes from discovery cohort WES, IntOgen analysis

File Name: Supplementary Data 7

Description: Whole genome sequencing information (n=9)

File Name: Supplementary Data 8

Description: Summary of the somatic coding mutations (by WGS) in the discovery cohort of *TERT*^{WT}-*IDH*^{WT} gliomas (n=9)

File Name: Supplementary Data 9

Description: Summary of the somatic copy number variants (CNV by WGS) in the discovery cohort of *TERT*^{WT}-*IDH*^{WT} gliomas (n=9)

File Name: Supplementary Data 10

Description: Summary of the somatic structural variants (SV by WGS) in the discovery cohort of *TERT*^{WT}-*IDH*^{WT} gliomas (n=9)

File Name: Supplementary Data 11

Description: CRISPR/Cas9 sgRNAs, cloning oligos, and Surveyor primers

File Name: Supplementary Data 12

Description: SMARCAL1 knockout isogenic cell lines generated by CRISPR/Cas9 gene editing

File Name: Supplementary Data 13

Description: PCR programs used in study

File Name: Supplementary Data 14

Description: Primers used in this study