

### **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Clinical information for patients selected in this study.

File Name: Supplementary Data 2

Description: Top 20000 variable probes selected for hierarchical clustering.

File Name: Supplementary Data 3

Description: Differential expressed genes between H3-Pons and H3-Medulla identified by edgeR.

File Name: Supplementary Data 4

Description: Results of enrichment analysis by DAVID, genes selected from Supplementary Data 3.

File Name: Supplementary Data 5

Description: Results of fusion genes detected by STAR-fusion.

File Name: Supplementary Data 6

Description: Results of genomic structural variants detected by Manta.

File Name: Supplementary Data 7

Description: Results of copy number variation by GISTIC.

File Name: Supplementary Data 8

Description: Amplification/Deletion genes from GISTIC.

File Name: Supplementary Data 9

Description: Data Access Agreements for datasets deposited in BIG and EGA