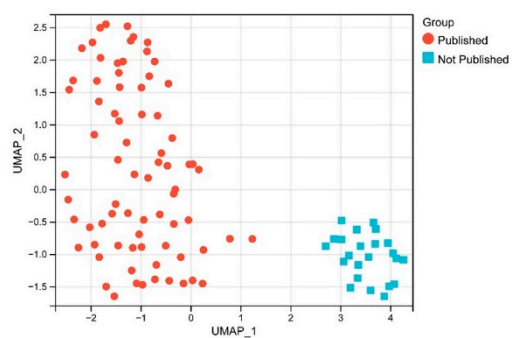
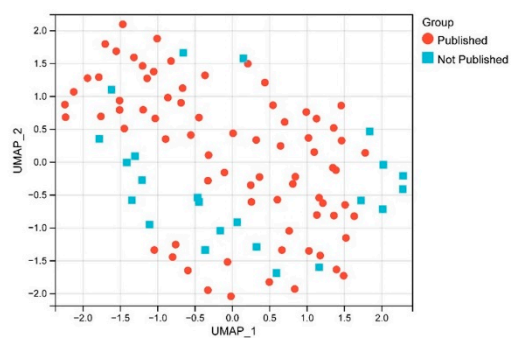
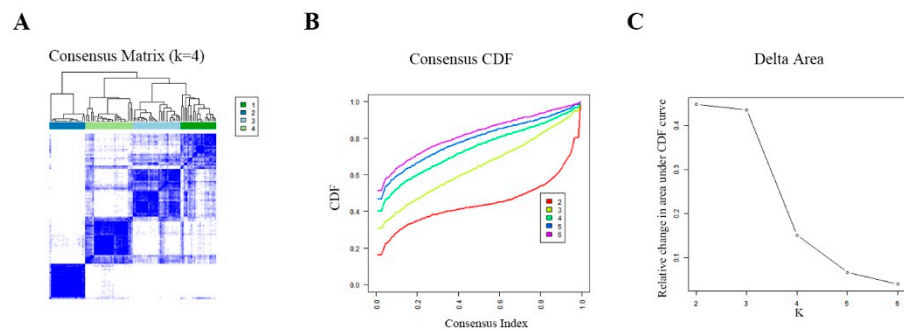


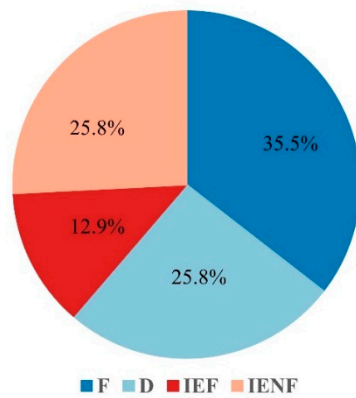
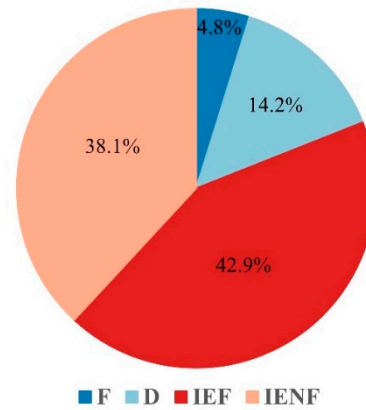
**Figure S1.** Workflow of this study

**A****B**

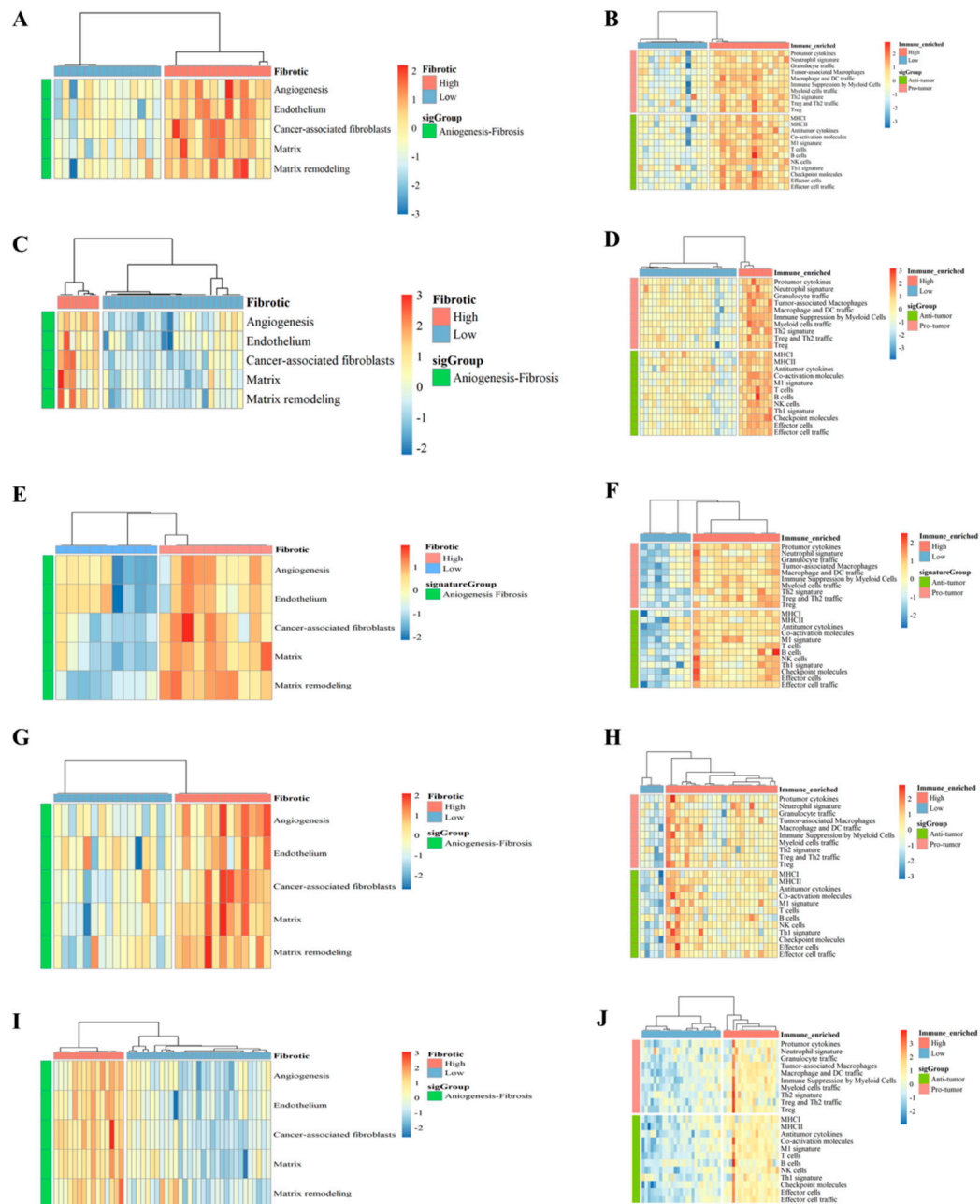
**Figure S2.** Batch effects were removed using Combat\_seq. A: Batch effects observed. B: Batch effects were removed using Combat\_seq.



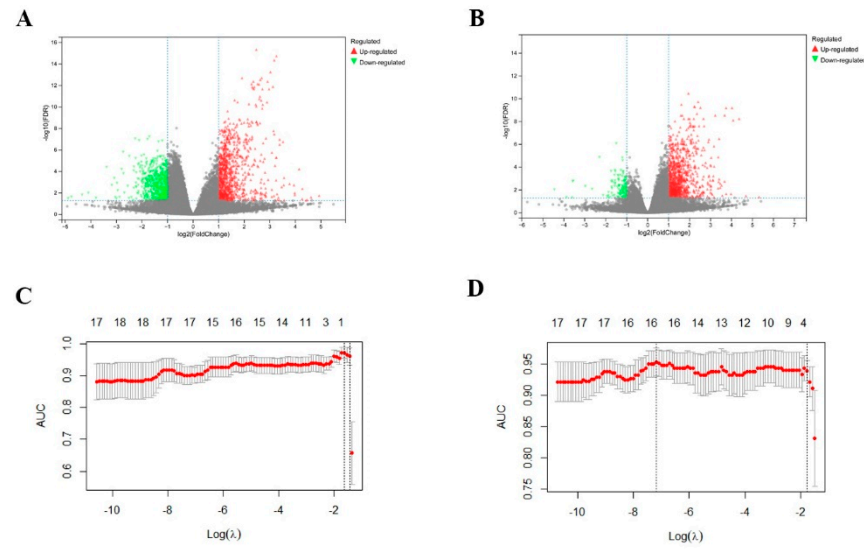
**Figure S3.** Determination of cluster number. A. Consensus Matrix during clustering. B. Consensus CDF curves. C. Delta area along number of clusters. CDF, cumulative distribution function.

**A****Percentages of TME clusters in DIPGs****B****Percentages of TME clusters in PA-like tumors**

**Figure S4.** Proportions of TME clusters in DIPGs and PA-like tumors. F: fibrotic; IEF: immune-enriched, fibrotic; D: Depleted; IENF: immune-enriched, non-fibrotic.



**Figure S5.** Results of consensus cluster of external datasets. A-B. CBTTC dataset, C-D. Results of PNOG dataset. E-F. Results of our independent cohort. G-H. Results of Pediatric Cancer Genome Project dataset. I-J. Results of Real-time Clinical Genomics dataset.



**Figure S6.** Procedures of determining key genes. A-B. Volcano plots displaying differential gene expression between groups. C-D. LASSO regression procedures (A, C: “fibrotic” and “immune-enriched, fibrotic” clusters vs “depleted” and “immune-enriched, non-fibrotic” clusters; B, D: “immune-enriched, non-fibrotic” and “immune-enriched, fibrotic” clusters vs “depleted” and “fibrotic” clusters)