**Data: GSE222520**

|  |  |
| --- | --- |
| Status | Public on Jun 23, 2024 |
| Title | Immune landscape of Isocitrate Dehydrogenase (IDH) stratified humangliomas [scRNA-seq] |
| Organism | Homo sapiens |
| Experiment type | Expression profiling by high throughput sequencing |
| Summary | The brain tumor immune microenvironment (TIME) continuously evolvesduring glioma progression, but only a limited view of a highly complex gliomaassociated immune contexture across isocitrate dehydrogenase mutation (IDH)classified gliomas is known. Herein, we present an unprecedentedlycomprehensive view of myeloid and lymphoid cell type diversity with our singlecell RNA sequencing interrogation. |
| Overall design | The glioma associated CD45+ leukocyte were subjected to Fluorescence-activated cell sorting (FACS) from cryopreserved single cells. The leukocyteenriched single cell suspensions were obtained from freshly resected tumors ofIDH-mutant primary (IMP; n=4), IDH-mutant recurrent (IMR; n=6), IDH-wildtype primary (IWP; n=4), or IDH-wild type recurrent (IWR; n=4) gliomapatients and quasi-normal non-glioma brain (NGB; n=3) from two epilepsypatients and a dysembryoplastic neuroepithelial tumor\*\*\* Raw data are not provided for this study. Raw data are protected by MDAnderson internal review board (IRB)-approved protocol numbers LAB03-0687,LAB04-0001 and 2012-0441 and |

**Samples:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **sample** | **geo\_accession** | **tissue** | **cell\_type** | **diagnosis** | **genotype** | **cancer\_type** |
| NGB1 | GSM6925378 | Quasi-normal Brain | Leukocytes | Dysembryoplastic neuroepithelial tumor | Not Applicable | Not Applicable |
| NGB2 | GSM6925379 | Quasi-normal Brain | Leukocytes | Type IIIa focal cortical dysplasia | Not Applicable | Not Applicable |
| NGB4 | GSM6925380 | Quasi-normal Brain | Leukocytes | Type IIIa focal cortical dysplasia | Not Applicable | Not Applicable |
| IWP4 | GSM6925394 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Primary |
| IWP2 | GSM6925392 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Primary |
| IWP1 | GSM6925391 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Primary |
| IWR1 | GSM6925395 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Recurrent |
| IMR2 | GSM6925386 | Brain Tumor | Leukocytes | Glioblastoma | IDH Mutant | Recurrent |
| IWR4 | GSM6925398 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Recurrent |
| IWR3 | GSM6925397 | Brain Tumor | Leukocytes | Glioblastoma | IDH Wild Type | Recurrent |

**Result 1: Cell type annotation to GBM and normal brain**

**Result2: gene expression in each cell types: FLVCR1, FLVCR2, TXNDC16, SOAT1, SCAP/SREBP, STING, LRP1, LRP8, LDLR, APOA, APOB, APOC, APOD, APOE, SCAP, DGAT1, DGAT2, SOAT1, SOAT2**