Chemokine-like factor

The chemokine-like factor (CKLF)-like Marvel transmembrane domain-containing (CMTM) family is widely expressed in the immune system and can modulate tumor progression. However, the role of the CMTM family in LGG remains unknown. A total of 508 LGG patients from The Cancer Genome Atlas (TCGA) database were used as a training cohort, and 155 LGG patients from the Chinese Glioma Genome Atlas (CGGA) array database, 142 LGG patients from the CGGA RNA-sequencing database, and 168 LGG patients from the GSE108474 database were used as the validation cohorts. Patients were subdivided into two groups using consensus clustering. The ENET algorithm was applied to build a scoring model based on the cluster model. Finally, ESTIMATE, CIBERSORT, and xCell algorithms were performed to define the tumor immune landscape. The expression levels of the CMTM family genes were associated with glioma grades and isocitrate dehydrogenase (IDH) status. Patients in cluster 2 and the high-risk score group exhibited a poor prognosis and were enriched with higher grade, wild-type IDH (IDH-WT), 1p19q non-codeletion, MGMT promoter unmethylation, and IDH-WT subtype. Patients in cluster 1 and low-risk score group were associated with high tumor purity and reduced immune cell infiltration. Enrichment pathways analysis indicated that several essential pathways involved in tumor progression were associated with the expression of CMTM family genes. Importantly, PD-1, PD-L1, and PD-L2 expression levels were increased in cluster 2 and high-risk groups. Therefore, the CMTM family contributes to LGG progression through modulating tumor immune landscape [1)].

1)
Wang Z, Zhang J, Zhang H, Dai Z, Liang X, Li S, Peng R, Zhang X, Liu F, Liu Z, Yang K, Cheng Q. CMTM Family Genes Affect Prognosis and Modulate Immunocytes Infiltration in Grade II/III Glioma Patients by Influencing the Tumor Immune Landscape and Activating Associated Immunosuppressing Pathways. Front Cell Dev Biol. 2022 Feb 17;10:740822. doi: 10.3389/fcell.2022.740822. PMID: 35252165; PMCID: PMC8891612.