Chromosome 2

- A de novo deletion underlying spinal muscular atrophy: implications for carrier testing and genetic counseling
- Dual phenotypes in recurrent astrocytoma, IDH-mutant; coexistence of IDH-mutant and IDH-wildtype components: a case report with genetic and epigenetic analysis
- Gliosarcoma: The Distinct Genomic Alterations Identified by Comprehensive Analysis of Copy Number Variations
- Identification of an Immunogenic Medulloblastoma-Specific Fusion Involving EPC2 and GULP1
- Genome-Wide Association Study Identifies Risk Loci for Cluster Headache
- Uniparental isodisomy of chromosome 2 causing MRPL44-related multisystem mitochondrial disease
- Duplication 2p16 is associated with perisylvian polymicrogyria
- A C19MC-LIN28A-MYCN Oncogenic Circuit Driven by Hijacked Super-enhancers Is a Distinct Therapeutic Vulnerability in ETMRs: A Lethal Brain Tumor

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Chromosome 2 is one of the 23 pairs of chromosomes in humans. People normally have two copies of this chromosome. Chromosome 2 is the second-largest human chromosome, spanning more than 242 million base pairs (the building material of DNA) and representing almost 8% of the total DNA in human cells.

Chromosome 2 contains the HOXD homeobox gene cluster.

There was a distinct DNA copy number variations (CNV) signal in chromosome 2 especially in Gliosarcoma. The pathway enrichment of genes with CNV was suggested that the GBM and GSM shared the similar mechanism of tumor development. However, the CNV of some screened genes displayed a disparate form between GBM and GSM, such as AMP, BEND2, HDAC6, FOXP3, ZBTB33, TFE3, and VEGFD. It meant that GSM was a distinct subgroup possessing typical biomarkers. The pathways and copy number alterations detected in this study may represent key drivers in gliosarcoma oncogenesis and may provide a starting point toward targeted oncologic analysis with therapeutic potential [1)]

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Cheng CD, Chen C, Wang L, Dong YF, Yang Y, Chen YN, Niu WX, Wang WC, Liu QS, Niu CS. Gliosarcoma: The Distinct Genomic Alterations Identified by Comprehensive Analysis of Copy Number Variations. Anal Cell Pathol (Amst). 2022 Jun 15;2022:2376288. doi: 10.1155/2022/2376288. PMID: 35757013; PMCID: PMC9226978.