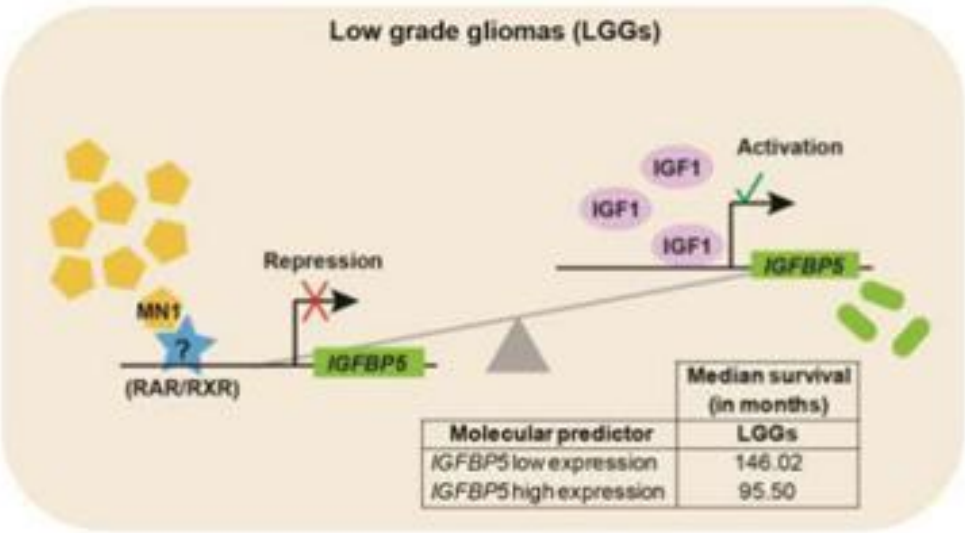
Scientist at RCB found that MN1 overexpression with varying tumor grade is a promising predictor of survival of glioma patients

Scientists at DBT- Regional Centre for Biotechnology (DBT-RCB), Faridabad have quantified Meningioma 1 (MN1) gene, IGFBP5 and IGF1 expression in 40 glioma samples and examined their interrelatedness, and found that MN1 mRNA-protein inter-correlation and gene's copy number were evaluated in these tumors. Publicly available TCGA datasets were used to examine the association of MN1 expression levels with patient survival and for validating the findings of current work.



It was observed that MN1 overexpression is correlated with low grade (LGGs) and not high grade gliomas (HGGs), and is not determined by copy number alteration of the gene. Notably, gliomas with upregulated MN1 have better overall and progression-free survival. IGFBP5 expression inversely associated with MN1 expression levels in gliomas but correlated positively with IGF1 expression in only LGGs. This suggests a potential grade-specific interplay between repressive and activating roles of MN1 and IGF1, respectively in the regulation of IGFBP5. Thus, MN1 overexpression, a promising predictor of overall and progression-free survival in gliomas, may serve as a prognostic biomarker in clinical practice to categorize patients with survival advantage.

Gliomas have substantial mortality to incidence rate ratio and a dismal clinical course. Newer molecular insights, therefore, are imperative to refine glioma diagnosis, prognosis and therapy. The MN1 gene is a transcriptional co-regulator implicated in other malignancies, albeit its

significance in glioma pathology remains to be explored. The IGFBP5 is regulated transcriptionally by MN1 and IGF1, and is associated with higher glioma grade and shorter survival time, prompting us to ascertain their correlation in these tumors.

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Contact details:

Dr. Deepika Bhaskar,

E-mail: deepika.bhaskar@rcb.res.in, Ph. No.: 9818497821

Dr. Nidhi Sharma,

E-mail: nidhi.sharma@rcb.res.in, Ph. No.: 8826808920