

The role of a novel hyaluronan depolymerization factor, HYBID, on glioma

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HYBID (hyaluronan binding protein involved in hyaluronan depolymerization) is a novel factor associated with hyaluronan depolymerization. HYBID facilitates the several tumor progression and the expression level of HYBID is helpful as a predictor of tumor progression including colon and pancreatic tumor. Though HYBID is important for hyaluronan metabolism in brain, there is no report on glioma. Therefore, we evaluated the role of HYBID and hyaluronan on glioma using *in vitro* and *in vivo* glioma models.

First, we evaluated the cell proliferation, migration, and the expression of some related proteins after knock of *hybid* by using siRNA in U251 human glioma cell. Moreover, we evaluated the tumor size by using the *in vivo* glioma model with HYBID KO and WT mice. Murine glioma model was estimated by hematoxylin and eosin staining.

Hybid knock down suppressed the glioma cell proliferation, migration and Wnt/ β -catenin signal related protein. HYBID may promote the glioma progression *via* Wnt/ β -catenin signal. Moreover, tumor size in HYBID KO mice were smaller than that in HYBID WT mice. This result indicates that host derived HYBID is contributed to glioma progression.

In conclusion, these findings indicate that HYBID was an important factor for glioma progression.