



Identification of *COL6A1* as a differentially expressed gene in human astrocytomas

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ABSTRACT. Diffuse infiltrating gliomas are the most common tumors of the central nervous system. Gliomas are classified by the WHO according to their histopathological and clinical characteristics into four classes: grade I (pilocytic astrocytoma), grade II (diffuse astrocytoma), grade III (anaplastic astrocytoma), and grade IV (glioblastoma multiforme). Several genes have already been correlated with astrocytomas, but many others are yet to be uncovered. By analyzing the public SAGE data from 21 patients, comprising low malignant grade astrocytomas and glioblastomas, we found *COL6A1* to be differentially expressed, confirming this finding by real time RT-PCR in 66 surgical samples. To the best of our knowledge, *COL6A1* has never been described in gliomas.

The expression of this gene has significantly different means when normal glia is compared with low-grade astrocytomas (grades I and II) and high-grade astrocytomas (grades III and IV), with a tendency to be greater in higher grade samples, thus rendering it a powerful tumor marker.

Key words: *COL6A1* gene; Astrocytomas; Differential gene expression; Tumor marker; SAGE