Knockdown of Ecto-5'-nucleotidase/CD73 affects Glioma Growth Parameters

Campesato, L.F.I. [1]; Casali, E. [1]; Lopez, L.C. [2]; Lenz, G. [2]; Battastini, A. M.O. [1].
[1]Departamento de Bioquímica/ICBS – UFRGS, Porto Alegre-RS; [2]Departamento de Biofísica/IB – UFRGS, Porto Alegre-RS, Brasil.

Glioblastoma multiforme is the most common and malignant primary tumor from Central Nervous System. These tumors show a particular high invasive and proliferative characteristic, and the purinergic system is described as an important factor in glioma growth. We have shown that ATP and adenosine stimulated the proliferation of several glioma cell lines *in vitro*. Ecto-5'-nucleotidase/CD73 (e5NT), an enzyme responsible for the hydrolysis of extracellular AMP and subsequent adenosine generation, is known as a protein involved in cell growth, migration and invasion. In this study we investigated the importance of e5NT in glioma growth by silencing this enzyme through lentiviral-mediated RNA interference in rat C6 glioma cells. Nucleotide hydrolysis was done by HPLC. Cell adhesion was analysed by attachment assay and proliferation through hemocytometer counter using Trypan Blue Dye exclusion. Our results demonstrated a significant decrease in AMP hydrolysis in e5NT knocked down cells (C6 e5NT iRNA) and these cells presented higher proliferative rates (approximately 60%) compared to control cells (C6 wild-type). Furthermore, e5NT iRNA presented weaker adhesion (40% less than control) and this alteration was independent of its enzymatic activity. These preliminary results indicate that e5NT definitely plays an important role in malignant properties of glioma cells. These behavior changes can be explained by alteration in P1 receptor signaling in knocked down cells or due some not well described function of ecto-5'-nucleotidase, not related to its enzymatic activity.

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[O1] Comentário: Mais confiança!