GOLPH3

Hu et al. aimed to examine whether Golgi protein GOLPH3 could affect the secretion of glioma cell-derived exosomes. The exosomes were extracted by ultracentrifuge from the supernatant of U251 and U87 cell cultures and identified by transmission electron microscopy (TEM), Malvern analyzer, and western blot. The number of exosomes was examined by measuring the total protein levels and the number of multiple vesicle bodies (MVBs), the source of exosomes. The exosome miRNAs were analyzed by high-throughput sequencing followed by GO and KEGG analysis and validated by qRT-PCR. GOLPH3 could not affect the total protein levels of exosomes and the number of MVBs. However, they found 149 differentially expressed miRNAs in exosomes between vector and GOLPH3 over-expression group, and 14 miRNAs were only examined in GOLPH3 over-expression cells. The predicted target genes of these miRNAs had functions in binding and catalytic activity, which were enriched in the pathways of endocytosis, RNA transportation, thyroid hormone signaling and miRNAs in cancer. GOLPH3 could not affect the number of exosomes, but rather contribute to miRNA expression in exosomes, which may play some functions in the promotion effect of GOLPH3 on glioma development [1)].

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Hu P, Wang K, Zhou D, Wang L, Zhao M, Wang W, Zhang Y, Liu Y, Yu R, Zhou X. GOLPH3 Regulates Exosome miRNA Secretion in Glioma Cells. J Mol Neurosci. 2020 Mar 29. doi: 10.1007/s12031-020-01535-6. [Epub ahead of print] PubMed PMID: 32227282.