

Apolipoprotein C1

Mass spectrometry of glioblastoma cyst fluids has disclosed a protein peak with m/z 6424-6433. Among the proteins, potentially generating this peak are Apolipoprotein C1 ApoC1 and LuzP6. To further elucidate protein expression of glioblastoma cells, Evangelou et al., analyzed MALDI-TOF results of cyst fluid, performed immunohistochemistry and mRNA analysis. MALDI-TOF protein extraction from 24 glioblastoma cyst fluids was performed with a weak cation exchange. 50 glioblastoma samples were stained with two custom-made antibodies against LuzP6 and commercial antibodies against ApoC1, C12orf75 and OCC-1 and analyzed. For mRNA detection, 16 tissue samples were stored in RNAlater, extracted using the miRNeasy kit and reversely transcribed. For 12 patients, synopsis of results from all three examinations was possible. MALDI-TOF confirmed the peak at 6433 Da in 75% of samples. Immunohistochemically, LuzP6 was detected in 92% (LuzP61-29) and 96% (LuzP630-58) of samples and ApoC1 in 66%. Mean mRNA levels were highest for ApoC1, followed by LuzP6. No correlation between mRNA expression, immunohistochemical staining and intensity of the MALDI-TOF peaks was found. An unequivocal identification of one protein as the source for the 6433 peak is not possible, but the results point to ApoC1 and LuzP6 as the underlying proteins ¹⁾.

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Evangelou P, Groll M, Oppermann H, Gaunitz F, Eisenlöffel C, Müller W, Eschrich K, Schänzer A, Nestler U. Assessment of ApoC1, LuzP6, C12orf75 and OCC-1 in cystic glioblastoma using MALDI-TOF mass spectrometry, immunohistochemistry and qRT-PCR. Med Mol Morphol. 2019 Apr 20. doi: 10.1007/s00795-019-00223-8. [Epub ahead of print] PubMed PMID: 31006040.

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