### Title: The investigation of Isocitrate dehydrogenase (IDH) expression change in human brain Oligodendroglioma tumor

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**Abstract:** Isocitrate dehydrogenase (IDH) catalyzes the oxidative decarboxylation of isocitrate to α-ketoglutarate and reduces NAD (P) to NAD (P)H. IDH\(_{1}\) and IDH\(_{2}\) are NADP dependent. IDH\(_{1}\) mutation is frequent in diffuse Gliomas such as Oligodendrogliomas. Oligodendroglioma tumors continue to receive much attention because of their relative sensitivity to chemotherapy. In an attempt to get an understanding of molecular diagnosis of Oligodendroglioma tumors, we extracted proteins of tumor and normal brain tissues and then evaluated the protein purity by Bradford test and Spectrophotometry method. In this study, we separated proteins by 2DG Electrophoresis method and the spots were then analyzed and compared using statistical data and specific software, after providing 3D images of spots alteration. Spots were identified by PI, molecular weights and data banks. Oligodendroglioma with a mutant IDH\(_{1}\) had noteworthy enhanced expression of enzymes controlling aerobic glycolysis and detoxification and anti-apoptosis proteins. To date, all IDH\(_{1}\) mutations have been identified at the Arg132 codon. Mutations in IDH\(_{2}\) have been identified at the Arg140 codon. Comparative proteomics analysis might thus be suitable to identify proteome alterations associated with a well-defined mutation.

**IDH, Proteomics, Oligodendroglioma and 2D-DIGE**

**Presentation:** Poster