CD44

The CD44 antigen is a cell-surface glycoprotein involved in cell–cell interactions, cell adhesion and migration. In humans, the CD44 antigen is encoded by the CD44 gene on Chromosome 11.

CD44 has been referred to as HCAM (homing cell adhesion molecule), Pgp-1 (phagocytic glycoprotein-1), Hermes antigen, lymphocyte homing receptor, ECM-III, and HUTCH-1.

Ten hemangioblastomas were investigated immunohistochemically. CD44, a mesenchymal stem cell marker, was detected in stromal cells of all cases, suggesting that stromal cells have mesenchymal stem cell-like properties. Neither CD31 nor α-SMA was expressed in stromal cells, suggesting that stromal cells have not acquired differentiated vascular cell properties. Both ephrin-B2 and EphB4, immature vascular cell markers, were detected in stromal cells of all cases. Jagged1, Notch1, and Hesr2/Hey2, which are known to be detected in both immature endothelial cells and mural cells, were expressed in stromal cells of all cases. Notch3, which is known to be detected in differentiating mural cells, was also expressed in all cases. These results suggest that stromal cells also have vascular progenitor cell properties. In conclusion, stromal cells of hemangioblastomas exhibit mesenchymal stem cell-derived vascular progenitor cell properties [1].

The study of Moldovan et al. is the first one to report a statistically significant difference between the expression of CD44 in primary and relapsed invasive pituitary neuroendocrine tumors and it could be used as a negative impact prognostic marker [2]

1)
Takada S, Hojo M, Takebe N, Tanigaki K, Miyamoto S. Stromal cells of hemangioblastomas exhibit mesenchymal stem cell-derived vascular progenitor cell properties. Brain Tumor Pathol. 2018 Jun 23. doi: 10.1007/s10014-018-0323-2. [Epub ahead of print] PubMed PMID: 29936560.
2)
Moldovan IM, Şuşman S, Pîrlog R, Jianu EM, Leucuţa DC, Melincovici CS, Crişan D, Florian IŞ. Molecular markers in the diagnosis of invasive pituitary neuroendocrine tumors - an immunohistochemistry study. Rom J Morphol Embryol. 2017;58(4):1357-1364. PMID: 29556628.