Table S1: Isolation Marker Candidates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cell surface Protein** | **Other names** | **reported on GBM Cells** | **Reported on Blood Cells** | **Antibody, type, [clone], dilution FACS, IC / bead coupling** | **Detected in this study** |
| **MCAM** | CD146; MUC18; | Yes(1) | on circulating endothelial cells (2) | αMCAM\*; IgG1; [P1H12]; 1:250/1:40 | On GBM cells; not on PBMCs. |
| **MCSP** | NG2 {neuron-glial antigen 2) | Yes(3) | No(4) | αNG2\*; IgG2a; [9.2.27]; 1:500/1:90 | On GBM cell lines; not on PBMCs. |
| **N-Cadherin** | Cadherin-2; CD325; NCAD; CDHN | Ye(5)s | No(6) | αN-Cadherin+; IgG1; [GC4]; 1:100/n/a | Variable on GBM cell lines; marginal on PBMCs |
| **EGFR** | ErbB1; Her1; | Yes(7) | No(8) | αEGFR\*; IgG1; [LA1]; 1:200/n/a | Highly variable on GBM cell lines; marginal on PBMCs |
| **CD271** | P75(NTR) | Yes (9) | low (10) | αCD271#; IgG1; [C40-1457]; 1:200/n/a | Marginal on GBM cell lines |
| **A2B5** | N/A | Yes(11) | No(12) | αA2B5§; IgM; [105-HB29]; 1:11/n/a | Not on GBM cell lines |

\*Millipore, Temecula, USA; +Merck, Darmstadt, Germany; #BD Biosciences, Franklin Lakes, USA; §Lonza, Sydney, Australia, A2B5: Cell Surface Ganglioside; FACS: flowcytometry; IC: immonucytostaining

**References**

1. Yang Y, Hernandez R, Rao J, Yin L, Qu Y, Wu J, et al. Targeting CD146 with a 64Cu-labeled antibody enables in vivo immunoPET imaging of high-grade gliomas. Proc Natl Acad Sci U S A. 2015;112(47):E6525-34.

2. Flores-Nascimento MC, Alessio AM, de Andrade Orsi FL, Annichino-Bizzacchi JM. CD144, CD146 and VEGFR-2 properly identify circulating endothelial cell. Rev Bras Hematol Hemoter. 2015;37(2):98-102.

3. Al-Mayhani MT, Grenfell R, Narita M, Piccirillo S, Kenney-Herbert E, Fawcett JW, et al. NG2 expression in glioblastoma identifies an actively proliferating population with an aggressive molecular signature. Neuro Oncol. 2011;13(8):830-45.

4. Po JW, Ma Y, Balakrishna B, Brungs D, Azimi F, de Souza P, et al. Immunomagnetic isolation of circulating melanoma cells and detection of PD-L1 status. PLoS One. 2019;14(2):e0211866.

5. Noh MG, Oh SJ, Ahn EJ, Kim YJ, Jung TY, Jung S, et al. Prognostic significance of E-cadherin and N-cadherin expression in Gliomas. BMC Cancer. 2017;17(1):583.

6. Po JW, Roohullah A, Lynch D, DeFazio A, Harrison M, Harnett PR, et al. Improved ovarian cancer EMT-CTC isolation by immunomagnetic targeting of epithelial EpCAM and mesenchymal N-cadherin. Journal of circulating biomarkers. 2018;7:1849454418782617.

7. An Z, Aksoy O, Zheng T, Fan QW, Weiss WA. Epidermal growth factor receptor and EGFRvIII in glioblastoma: signaling pathways and targeted therapies. Oncogene. 2018;37(12):1561-75.

8. Real FX, Rettig WJ, Chesa PG, Melamed MR, Old LJ, Mendelsohn J. Expression of epidermal growth factor receptor in human cultured cells and tissues: relationship to cell lineage and stage of differentiation. Cancer Res. 1986;46(9):4726-31.

9. Johnston AL, Lun X, Rahn JJ, Liacini A, Wang L, Hamilton MG, et al. The p75 neurotrophin receptor is a central regulator of glioma invasion. PLoS Biol. 2007;5(8):e212.

10. Morgan B, Thorpe LW, Marchetti D, Perez-Polo JR. Expression of nerve growth factor receptors by human peripheral blood mononuclear cells. J Neurosci Res. 1989;23(1):41-5.

11. Tchoghandjian A, Baeza N, Colin C, Cayre M, Metellus P, Beclin C, et al. A2B5 cells from human glioblastoma have cancer stem cell properties. Brain pathology. 2010;20(1):211-21.

12. Thul PJ, Åkesson L, Wiking M, Mahdessian D, Geladaki A, Blal HA, et al. A subcellular map of the human proteome. Science. 2017;356(6340):eaal3321.