Leukocyte function associated antigen 1

Leukocyte function-associated antigen-1 (LFA-1) is a heterodimeric protein consisting of two subunits. LFA-1 plays a most important role in the immune system including adhesion, extravasation, migration, apoptosis, cytotoxicity, cytokine production, and proliferation of lymphocytes. Therefore, T-cell activation can be suppressed by blocking ICAM-1/LFA-1 interaction in autoimmune diseases and organ transplantation. Many different inhibitors (i.e. antibodies, peptides, small molecules) have been demonstrated to block ICAM-1/LFA-1 interaction, and some of them are promising for medical treatment or have reached clinical trials [1)].

The results of a study suggest LFA-1 as a new target in brain metastasis therapy and highlight the potential synergy with current anti-COX 2 and anti-NOS therapies [2)].

1)
Xingyuan M, Wenyun Z, Tianwen W. Leukocyte function-associated antigen-1: structure, function and application prospects. Protein Pept Lett. 2006;13(4):397-400. Review. PubMed PMID: 16712517.
2)
Soto MS, O'Brien ER, Andreou K, Scrace SF, Zakaria R, Jenkinson MD, O'Neill E, Sibson NR. Disruption of tumour-host communication by downregulation of LFA-1 reduces COX-2 and e-NOS expression and inhibits brain metastasis growth. Oncotarget. 2016 Jul 20. doi: 10.18632/oncotarget.10737. [Epub ahead of print] PubMed PMID: 27447568.