AMD3100

1,1'-[1,4-phenylenebis(methylene)]bis[1,4,8,11-tetraazacyclotetradecane] (AMD3100), an antagonist to the C-X-C chemokine receptor type 4 (CXCR4) and potential allosteric agonist to CXCR7.

After AMD3100 treatment, attenuation of microglia activation contributes to enhanced recovery of lost neurological function in experimental stroke possibly due to a depression of FKN levels in the brain.

Walter et al. further hypothesize that this mechanism is dependent on a functional receptor CX3CR1 [1)].

Interval use of AMD3100 promotes the formation of neointima in rabbit saccular aneurysm and facilitates the endothelialization of the neointima after flow diverter (FD) treatment [2)].

1)
Walter HL, van der Maten G, Antunes AR, Wieloch T, Ruscher K. Treatment with AMD3100 attenuates the microglial response and improves outcome after experimental stroke. J Neuroinflammation. 2015 Feb 7;12(1):24. PubMed PMID: 25881123.

2)
Li Z, Zhao R, Fang X, Zhou J, Jiang G, Huang Q, Liu J. AMD3100 accelerates reendothelialization of neointima in rabbit saccular aneurysm after flow diverter treatment. World Neurosurg. 2017 Jul 29. pii: S1878-8750(17)31228-7. doi: 10.1016/j.wneu.2017.07.128. [Epub ahead of print] PubMed PMID: 28765024.