

Abstract

Communication of cells with their extracellular environment is crucial to fulfill their function in physiological and pathophysiological conditions. Mechanisms that contribute to the interaction between neurons and/or astrocytes with extracellular matrix (ECM) proteins are still poorly understood. CD44 adhesion molecule is a transmembrane receptor for hyaluronan, which is the main component of the extracellular matrix (ECM) in the brain. In the nervous system, CD44 expression occurs in both glial and neuronal cells. We discuss the function of CD44 in the adult nervous system, especially in the context of neuronal development, structural neuronal plasticity, morphological changes of astrocytes and mediated signaling pathways.