CD34

Hematopoietic progenitor cell antigen CD34 also known as CD34 antigen is a protein that in humans is encoded by the CD34 gene.

CD34 is a cluster of differentiation first described independently by Civin et al. and Tindle et al. in a cell surface glycoprotein and functions as a cell-cell adhesion factor. It may also mediate the attachment of stem cells to bone marrow extracellular matrix or directly to stromal cells.

The CD34 protein is a member of a family of single-pass transmembrane sialomucin proteins that show the expression on early hematopoietic and vascular-associated tissue.

However, little is known about its exact function.

CD34 is also an important adhesion molecule and is required for T cells to enter lymph nodes. It is expressed on lymph node endothelia, whereas the L-selectin to which it binds is on the T cell.

Conversely, under other circumstances CD34 has been shown to act as molecular “Teflon” and block mast cell, eosinophil and dendritic cell precursor adhesion, and to facilitate opening of vascular lumens.

Finally, recent data suggest CD34 may also play a more selective role in chemokine-dependent migration of eosinophils and dendritic cell precursors.

Regardless of its mode of action, under all circumstances CD34, and its relatives podocalyxin and endoglycan, facilitates cell migration.