

## **Anti-DC-STAMP Antibody, clone 1A2 clone 1A2, from mouse**

Art. ID SAF-MABF39-I

Unit EA

### **Description**

Dendritic cell-specific transmembrane protein (UniProt Q9H295, also known as DC-STAMP, Dendrocyte-expressed seven transmembrane protein, FIND, hDC-STAMP, IL-four-induced protein, Transmembrane 7 superfamily member 4) is encoded by the DCSTAMP (also known as TM7SF4) gene (Gene ID 81501) in human. DC-STAMP is a six-transmembrane protein essential for cell-to-cell fusion to form multinucleated osteoclasts (OCs) during osteoclastogenesis. DC-STAMP expression is upregulated among osteoclast precursor (OCP) cells upon exposure to OC-promoting cytokines, such as receptor activator of nuclear factor-kappaB (NF-kappaB) ligand (RANKL), and Dcstamp-knockout (KO) mice have few multinucleated TRAP+ OCs and increased bone mass. On the other hand, DC-STAMP overexpression in transgenic (Tg) mice causes accelerated cell-to-cell fusion during OCP differentiation and enhanced bone resorption. DC-STAMP is a six-transmembrane (a.a. 35-55, 58-78, 98-118, 210-230, 293-313, 377-397) protein, having both its N- and C-terminal ends exposed intracellularly (a.a. 1-34, 398-470). The C-terminal cytoplasmic tail of DC-STAMP contains an immunoreceptor tyrosine-based inhibitory motif or ITIM sequence (407-SFYPSV-412) that, when phosphorylated on the tyrosine residue, recruits SHP-1. DC-STAMP neutralizing antibody blocks OC formation in vitro and abolishes cellular DC-STAMP and SHP-1 tyrosine phosphorylation.