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SELK Antibody

Catalog # ASC11524

Product Information

Application	WB, IF, E
Primary Accession	Q9Y6D0
Other Accession	NP_067060, 25014099
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	10645
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SELK antibody can be used for detection of SELK by Western blot at 1 - 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	58515
Other Names	Selenoprotein K, SelK, SELK
Target/Specificity	SELK;
Reconstitution & Storage	SELK antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SELK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SELENOK {ECO:0000303|PubMed:27645994, ECO:0000312|HGNC:HGNC:30394}
Function	Required for Ca(2+) flux in immune cells and plays a role in T-cell proliferation and in T-cell and neutrophil migration (By similarity). Involved in endoplasmic reticulum-associated degradation (ERAD) of soluble glycosylated proteins (PubMed:22016385). Required for palmitoylation and cell surface expression of CD36 and involved in macrophage uptake of low-density lipoprotein and in foam cell formation (By similarity). Together with ZDHHC6, required for palmitoylation of ITPR1 in immune cells, leading to regulate ITPR1 stability and function (PubMed:25368151). Plays a role in protection of cells from ER stress- induced apoptosis (PubMed:20692228). Protects cells from oxidative stress when overexpressed in cardiomyocytes

(PubMed:16962588).

Cellular Location	Endoplasmic reticulum membrane; Single-pass membrane protein. Cell membrane; Single-pass membrane protein. Note=Probably mainly localized in the ER
Tissue Location	Highly expressed in heart.

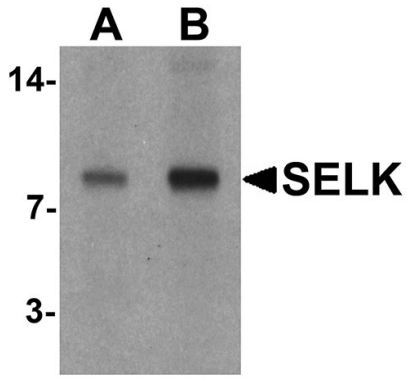
Background

SELK Antibody: SELK is a selenoprotein, containing a selenocysteine residue at its active site. SELK is localized to the endoplasmic reticulum and is highly expressed in the heart, where it may function as an antioxidant. SELK can bind to proteins such as the ER-associated degradation (ERAD) components p97 ATPase, Derlin-1 and -2, and SelS as well as proteins in the oligosaccharyltransferase complex, suggesting that SELK may be involved in the Derlin-dependent ERAD of glycosylated misfolded proteins. SELK is also thought to be important in Ca2+ flux in immune cells, and is cleaved by m-calpain in resting macrophages. When these macrophages are activated through different Toll-like receptors, this cleavage is inhibited

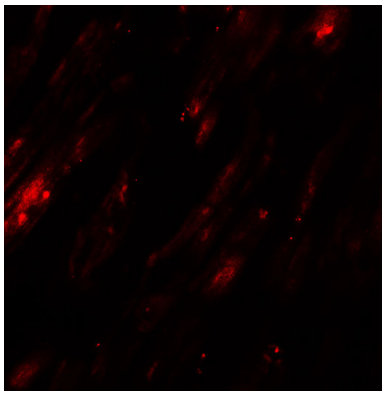
References

Lu C, Qiu F, Zhou H, et al. Identification and characterization of selenoprotein K: An antioxidant in cardiomyocytes. FEBS Lett. 2006; 580:5189-97
Shchedrina VA, Everly RA, Zhang Y, et al. Selenoprotein K binds multiprotein complexes and is involved in the regulation of endoplasmic homeostasis. J. Biol. Chem. 2011; 286:42937-48.
Huang Z, Hoffmann FW, Norton RL, et al. Selenoprotein K is a novel target of m-calpain, and cleavage is regulated by Toll-like receptor-induced calpastatin in macrophages. J. Biol. Chem. 2011; 286:34830-8.

Images



Western blot analysis of SELK in A20 cell lysate with SELK antibody at (A) 1 and (B) 2 µg/mL.



Immunofluorescence of SELK in human heart tissue with SELK antibody at 20 µg/mL.