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SDCG1 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50585

Product Information

Application	WB
Primary Accession	O60524
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	122954

Additional Information

Gene ID	9147
Other Names	Nuclear export mediator factor NEMF, Antigen NY-CO-1, Serologically defined colon cancer antigen 1, NEMF, SDCCAG1
Dilution	WB~~ 1:1000
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

Protein Information

Name	NEMF {ECO:0000303|PubMed:33048237, ECO:0000312|HGNC:HGNC:10663}
Function	Key component of the ribosome quality control complex (RQC), a ribosome-associated complex that mediates the extraction of incompletely synthesized nascent chains from stalled ribosomes as well as their ubiquitin-mediated proteasomal degradation (PubMed:25578875, PubMed:32726578, PubMed:33406423, PubMed:33909987). Thereby, frees 60S subunit ribosomes from the stalled translation complex and prevents the accumulation of nascent polypeptide chains that are potentially toxic for the cell (PubMed:25578875, PubMed:33406423, PubMed:33909987). Within the RQC complex, NEMF specifically binds stalled 60S ribosomal subunits by recognizing an exposed, nascent chain-conjugated tRNA moiety and promotes the recruitment of LTN1 to stalled 60S subunits (PubMed:25578875). Following binding to stalled 60S ribosomal subunits, NEMF mediates CAT tailing by recruiting alanine-charged tRNA to the A- site and directing the elongation of stalled nascent chains independently of mRNA or 40S subunits, leading to non-templated C- terminal alanine extensions (CAT tails) (PubMed:33406423, PubMed:33909987). Mainly recruits alanine-charged tRNAs, but can also other amino acid-charged tRNAs (PubMed:33406423,

PubMed:33909987). CAT tailing is required to promote ubiquitination of stalled nascent chains by different E3 ubiquitin-protein ligases (PubMed:33909987). In the canonical RQC pathway (RQC-L), CAT tailing facilitates LTN1-dependent ubiquitination by exposing lysine residues that would otherwise remain buried in the ribosomal exit tunnel (By similarity). In the alternative RQC pathway (RQC-C) CAT tailing creates an C-degron mainly composed of alanine that is recognized by the CRL2(KLHDC10) and RCHY1/PIRH2 E3 ligases, leading to ubiquitination and degradation of stalled nascent chains (PubMed:33909987). NEMF may also indirectly play a role in nuclear export (PubMed:16103875).

Cellular Location Cytoplasm, cytosol. Nucleus

Tissue Location Expressed in brain, heart, liver, lung, spleen, and skeletal muscle. Also expressed at lower levels in stomach and testis

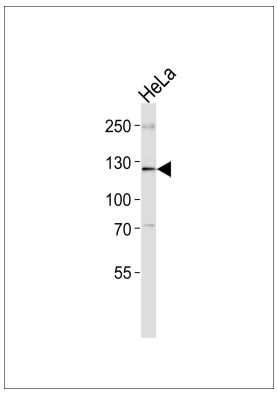
Background

Plays a role in nuclear export.

References

Ota T.,et al.Nat. Genet. 36:40-45(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Heilig R.,et al.Nature 421:601-607(2003).
Scanlan M.J.,et al.Int. J. Cancer 76:652-658(1998).
Bi X.,et al.Oncogene 24:8229-8239(2005).

Images



Western blot analysis of lysate from HeLa cell line,using SDCG1 Antibody(AP50585). AP50585 was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysate at 35ug.