10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# NY-CO-1 Polyclonal Antibody

Catalog # AP71398

## Product Information

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|---|---|
| **Application** | WB, IHC-P |
| **Primary Accession** | O60524 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 122954 |

## Additional Information

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|---|---|
| **Gene ID** | 9147 |
| **Other Names** | NEMF; SDCCAG1; Nuclear export mediator factor NEMF; Antigen NY-CO-1; Serologically defined colon cancer antigen 1 |
| **Dilution** | WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/20000. Not yet tested in other applications. IHC-P~~N/A |
| **Format** | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide. |
| **Storage Conditions** | -20℃ |

## Protein Information

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|---|---|
| **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).

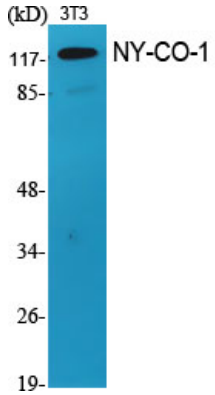
**Cellular Location** Cytoplasm, cytosol. Nucleus

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

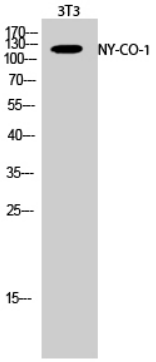
## Background

Component of the ribosome quality control complex (RQC), a ribosome-associated complex that mediates ubiquitination and extraction of incompletely synthesized nascent chains for proteasomal degradation. NEMF is responsible for selective recognition of stalled 60S subunits by recognizing an exposed, nascent chain-conjugated tRNA moiety. NEMF is important for the stable association of LTN1 to the complex (PubMed:25578875). May indirectly play a role in nuclear export (PubMed:16103875).

## Images

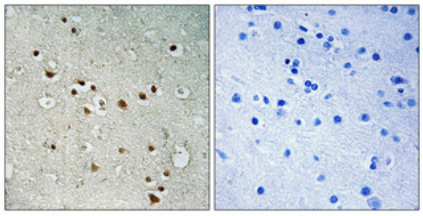



Western Blot analysis of various cells using NY-CO-1 Polyclonal Antibody




Western Blot analysis of 3T3 cells using NY-CO-1 Polyclonal Antibody

Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100(4°,overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negetive contrl (right) obtaned from antibody was pre-absorbed by immunogen peptide.



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