3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-XRN1
produced in rabbit, affinity isolated antibody

Product Number **SAB4200028**

Product Description

Anti-XRN1 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human XRN1 (Gene ID: 54464) conjugated to KLH. The corresponding sequence is identical in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-XRN1 recognizes human and mouse XRN1. The antibody may be used in several immunochemical techniques including immunoblotting (~195 kDa) and immunofluorescence. Detection of the XRN1 band by immunoblotting is specifically inhibited with the immunizing peptide.

mRNA decay is typically initiated with the removal of the 3′ poly A, followed by degradation of the mRNA in a 5′→3′ or 3′→5′ direction. In the 5′→3′ decay pathway, the m7G mRNA cap is cleaved by a large multisubunit decapping complex, followed by clearing of the mRNA body by the 5′→3′ exonuclease XRN1 (also known as SEP1).[1,2] The yeast XRN1p has been suggested to be the major 5′→3′ exoribonuclease, whereas eukaryotic cells also contain a related nuclease RAT1.[3] It was shown that XRN1 forms a multicomponent complex with decay factors such as Dcp1, Dcp2, Hedls (EDC4), and Lsm, that colocalize to cytoplasmic foci termed P bodies, where mRNA decapping and decay occur.[4-6]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at –20 °C. For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 2-4 μg/mL is recommended using nuclear extract of HEK-293T.

Immunofluorescence: a working antibody concentration of 2-5 μg/mL is recommended using paraformaldehyde fixed NIH-3T3 cells.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. Newbury, F.N., *Biochem. Soc. Transaction*, **34**, 30-34 (2006).
2. Coller, J., and Parker, R., *Annu. Rev. Biochem.,* **73**, 861-890 (2004).
3. Parker, R., and Song, H., *Nat. Struct. Mol. Biol*., **11**, 121-127 (2004).
4. Bouveret, E. et al., *EMBO J*., **19**, 1661-1671 (2000).
5. Sheth, U., and Parker, P., *Science*, **300**, 805-808 (2003).
6. Ingelfinger, D. et al., *RNA*, **8(12)**, 1489-1501 (2002).

VS,SG,TD,KAA,PHC,MAM 05/19-1