

Product Information

Anti-FUS (internal)

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200455**

Product Description

Anti-FUS (internal) is produced in rabbit using as immunogen a synthetic peptide corresponding to an internal region of human FUS isoform 1 (GenID: 2521), conjugated to KLH. The corresponding sequence is identical in human FUS isoforms 2 and 3, and in mouse and rat FUS. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-FUS (internal) specifically recognizes human and rat FUS. It may be used in various immunochemical techniques including immunoblotting, ~68 kDa, immunofluorescence and immunohistochemistry. Detection of the FUS band by immunoblotting is specifically inhibited by the FUS immunizing peptide.

FUS (fused in sarcoma, also known as TLS, RNP-P2, ALS6) is a RNA/DNA binding protein that plays regulatory roles in transcription, RNA splicing and transport and is implicated in multiple diseases.^{1,2} Chromosomal translocation of FUS/TLS is found in human cancers and results in the production of oncogenic FUS fusion proteins. Recently, FUS has been implicated in a broadening spectrum of neurodegenerative disorders.² FUS has been identified as a component of inclusion bodies in patients with Huntington's disease (HD) and spinocerebellar ataxias (SCA1-3). More recently, mutations in TDP-43 and FUS have been identified in amyotrophic lateral sclerosis (ALS) and fronto-temporal lobar degeneration (FTLD) including ubiquitin-positive inclusions (FTLD-U).²⁻⁴ Although FUS is normally located predominantly in the nucleus, pathological FUS inclusions are mostly found in the cytosol of neurons and glia cells.^{2,5} The majority of the FUS mutations have been identified in C-terminal nuclear localization signal (NLS). It has been proposed that age-related decline in nuclear import mechanisms, in combination with cellular stress and genetic risk factors may be a central underlying cause of ALS and FTLD pathology.⁴

Reagent

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

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers is also 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 concentration of 1.5-3.0 µg/mL is recommended using lysates of Jurkat cells.

Immunofluorescence: a working concentration of 2.5-5 µg/mL is recommended using HeLa cells.

Immunohistochemistry: a working concentration of 5-10 µg/mL is recommended using formalin-fixed paraffin embedded rat colon.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Zinszner, H., et al., *J. Cell Sci.*, **110**, 1741-1750 (1997).
2. Lagier-Tourenne, C., et al., *Hum. Mol. Genet.*, **19**, R46-R64 (2010).
3. Vance, C., et al., *Science*, **323**, 1208-1211 (2009).
4. Dormann, D., and Haass, C., et al., *Trends Neurosci.*, **34**, 339-348 (2011).
5. Kino, Y., et al., *Nucl. Acid Res.*, **39**, 2781-2798 (2011).

ER,RC,AK-N,PHC 08/12-1