

## Product Information

### Anti-FUS

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200454**

#### Product Description

Anti-FUS is produced in rabbit using as immunogen a synthetic peptide corresponding to the N-terminal region of human FUS isoform 1 (GeneID: 2521), conjugated to KLH. The corresponding sequence is identical in human FUS isoforms 2 and 3, and highly conserved (single amino acid insertion) in mouse and rat FUS. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-FUS specifically recognizes human and rat FUS. The antibody 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.<sup>1,2</sup> 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.<sup>2</sup> 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).<sup>2,4</sup> Although FUS is normally located predominantly in the nucleus, pathological FUS inclusions are mostly found in the cytosol of neurons and glia cells.<sup>2,5</sup> 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.<sup>4</sup>

#### 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 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).

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