

U11/U12 snRNP 20K (A-15): sc-86934

BACKGROUND

Small nuclear ribonucleoproteins, also known as snRNPs, combine with other proteins to form spliceosomes, a complex that catalyzes pre-mRNA splicing. There are two types of spliceosomes: U2 and U12. The U2-type spliceosome is found in all eukaryotes and excises U2-type introns, which account for the majority of pre-mRNA introns. The U12-type spliceosome removes U12-type introns, which comprise less than 1% of all human introns. The U12-type spliceosome is comprised of the U11 and U12 snRNPs as well as the U4/U6.U5 tri-snRNP. U11 and U12 bind as a U11/U12 di-snRNP complex, which recognizes the 5' splice site of the pre-mRNA during the first steps of U12-type spliceosome formation. U11/U12 snRNPs contain several proteins, including seven that are unique to the U11/U12snRNP: 65K, 59K, 48K, 35K, 31K, 25K and 20K. U11/U12 snRNP 20K (U11/U12 small nuclear ribonucleoprotein 20 kDa protein), also known as ZMAT5 (Zinc finger matrix-type protein 5), is a 170 amino acid nuclear protein that contains one C3H1-type zinc finger.

REFERENCES

- Sillekens, P.T., Beijer, R.P., Habets, W.J. and van Verooij, W.J. 1989. Molecular cloning of the cDNA for the human U2 snRNA-specific A' protein. *Nucleic Acids Res.* 17: 1893-1906.
- Crispino, J.D., Blencowe, B.J. and Sharp, P.A. 1994. Complementation by SR proteins of pre-mRNA splicing reactions depleted of U1 snRNP. *Science* 265: 1866-1869.
- Blencowe, B.J., Issner, R., Nickerson, J.A. and Sharp, P.A. 1998. A coactivator of pre-mRNA splicing. *Genes Dev.* 12: 996-1009.
- Price, S.R., Evans, P.R. and Nagai, K. 1998. Crystal structure of the spliceosomal U2B"-U2A' protein complex bound to a fragment of U2 small nuclear RNA. *Nature* 394: 645-650.
- Eldridge, A.G., Li, Y., Sharp, P.A. and Blencowe, B.J. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. *Proc. Natl. Acad. Sci. USA* 96: 6125-6130.
- Lundin, M., Mikkelsen, B., Gudim, M. and Syed, M. 2000. Gene structure of the U2 snRNP-specific A' protein gene from *salmo salar*: alternative transcripts observed. *Mar. Biotechnol.* 2: 204-211.
- Nagengast, A.A. and Salz, H.K. 2001. The *Drosophila* U2 snRNP protein U2A' has an essential function that is SNF/U2B" independent. *Nucleic Acids Res.* 29: 3841-3847.
- Jurica, M.S., Licklider, L.J., Gygi, S.R., Grigorieff, N. and Moore, M.J. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. *RNA* 8: 426-439.
- Will, C.L., Schneider, C., Hossbach, M., Urlaub, H., Rauhut, R., Elbashir, S., Tuschl, T. and Lührmann, R. 2004. The human 18S U11/U12 snRNP contains a set of novel proteins not found in the U2-dependent spliceosome. *RNA* 10: 929-941.

CHROMOSOMAL LOCATION

Genetic locus: ZMAT5 (human) mapping to 22q12.2; Zmat5 (mouse) mapping to 11 A1.

SOURCE

U11/U12 snRNP 20K (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of U11/U12 snRNP 20K of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86934 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-86934 X, 100 µg/0.1 ml.

APPLICATIONS

U11/U12 snRNP 20K (A-15) is recommended for detection of U11/U12 snRNP 20K of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for U11/U12 snRNP 20K siRNA (h): sc-76781, U11/U12 snRNP 20K siRNA (m): sc-154831, U11/U12 snRNP 20K shRNA Plasmid (h): sc-76781-SH, U11/U12 snRNP 20K shRNA Plasmid (m): sc-154831-SH, U11/U12 snRNP 20K shRNA (h) Lentiviral Particles: sc-76781-V and U11/U12 snRNP 20K shRNA (m) Lentiviral Particles: sc-154831-V.

U11/U12 snRNP 20K (A-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of U11/U12 snRNP 20K: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.