

Tra-2 β (H-50): sc-67117

BACKGROUND

Human transformer-2 α (Tra-2 α) and Tra-2 β are nuclear proteins that associate with distinct pre-mRNA splicing enhancer elements. Tra-2 α is the functional homolog of the *Drosophila* TRA-2 protein, which regulates the female specific pre-mRNA splicing pattern of the doublesex (dsx) gene in *Drosophila*. Human Tra-2 proteins are able to actively splice *Drosophila* sex factors; however, human Tra-2 α has not been shown to induce sexual differentiation, which suggests that human Tra-2 α proteins may regulate splicing patterns involving alternative mechanisms. Tra-2 α and Tra-2 β proteins contain a single RNP-type RNA-binding domain and selectively bind to purine-rich sequences to facilitate mRNA splicing. Expression of Tra-2 β is upregulated during the reoxygenation of hypoxic astrocytes, and both Tra-2 α and Tra-2 β are detected in nuclear fractions from HeLa cells. Tra-2 α and Tra-2 β interact with the serine/arginine-rich (SR) family of splicing factors to form Tra-2/SR complexes that then regulate tissue-specific alternative splicing patterns of many pre-mRNAs.

REFERENCES

1. Dauwalder, B., et al. 1996. A human homologue of th has conserved splicing regulatory functions. Proc. Natl. Acad. Sci. USA 93: 9004-9009.
2. Beil, B., et al. 1997. Molecular cloning of htra2- β -1 and htra2- β -2, two human homologs of tra-2 generated by alternative splicing. DNA Cell Biol. 16: 679-690.
3. Chandler, D., et al. 1997. Evolutionary conservation of regulatory strategies for the sex determination factor transformer-2. Mol. Cell. Biol. 17: 2908-2919.
4. Nayler, O., et al. 1998. Human transformer-2- β gene (SFRS10): complete nucleotide sequence, chromosomal localization, and generation of a tissue-specific isoform. Genomics 53: 191-202.
5. Tacke, R., et al. 1998. Human Tra2 proteins are sequence-specific activators of pre-mRNA splicing. Cell 93: 139-148.
6. Hofmann, Y., et al. 2000. Htra2- β 1 stimulates an exonic splicing enhancer and can restore full-length SMN expression to survival motor neuron 2 (SMN2). Proc. Natl. Acad. Sci. USA 97: 9618-9623.

SOURCE

Tra-2 β (H-50) is a rabbit polyclonal antibody raised against amino acids 1-50 mapping at the N-terminus of Tra-2 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-67117 X, 200 μ g/0.1 ml.

STORAGE

Store at 4 $^{\circ}$ C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Tra-2 β (H-50) is recommended for detection of Tra-2 β isoform 1, and to a lesser extent, other splicing factor family members of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Tra-2 β (H-50) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Tra-2 β isoforms: 33/22/4 kDa.

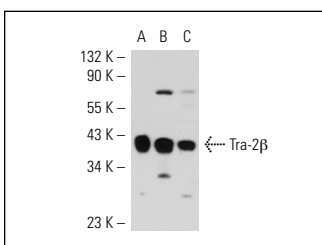
Molecular Weight (observed) of Tra-2 β : 40 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148, SK-N-MC nuclear extract: sc-2154 or HL-60 nuclear extract: sc-2147.

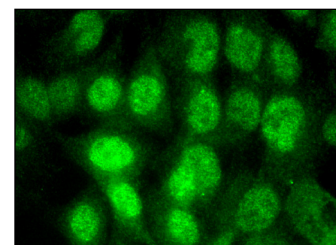
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz MarkerTM compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz MarkerTM Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruzTM Mounting Medium: sc-24941.

DATA



Tra-2 β (H-50): sc-67117. Western blot analysis of Tra-2 β expression in IMR-32 (A), SK-N-MC (B) and HL-60 (C) nuclear extracts.



Tra-2 β (H-50): sc-67117. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear and cytoplasmic localization.

RESEARCH USE

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



Try **Tra-2 β (D-2): sc-166829** or **Tra-2 β (D-4): sc-166769**, our highly recommended monoclonal alternatives to Tra-2 β (H-50).