SANTA CRUZ BIOTECHNOLOGY, INC.

TRA-1-60 (TRA-1-60): sc-21705

BACKGROUND

Embryonic stem cells have the ability to remain undifferentiated and proliferate indefinitely *in vitro,* while maintaining the potential to differentiate into derivatives of all three embryonic germ layers. Undifferentiated human embryonal carcinoma (EC) cells are the stem cells of teratocarcinomas and are characterized by the expression of Stage Specific Embryonic Antigens SSEA-1 and SSEA-3, the high molecular weight glycoproteins TRA-1-60 and TRA-1-81, as well as TRA-2-39 and TRA-2-54. Monoclonal antibodies TRA-2-49 and TRA-2-54 also recognize the liver isozyme of alkaline phosphatase expressed by human EC cells. TRA-1-60 antigen was originally identified as a teratocarcinoma mucin-like antigen expressed on the surface of EC progenitor cells. TRA-1-60 is also characterized as a tumor marker for embryonal carcinoma positive NSTGCT (nonseminomatous testicular germ cell tumors) and is coexpressed with TRA-1-81 and the SSEAs on the membrane of a considerable number of stem cells.

REFERENCES

1. Andrews, P.W., et al. 1987. Human embryonal carcinoma cells and their differentiation in culture. Int. J. Androl. 10: 95-104.
2. Marrink, J., et al. 1991. TRA-1-60: a new serum marker in patients with germ-cell tumors. Int. J. Cancer 49: 368-372.

CHROMOSOMAL LOCATION

Genetic locus: PODXL (human) mapping to 7q32.3.

SOURCE

TRA-1-60 (TRA-1-60) is a mouse monoclonal antibody raised against 2102Ep human embryonal carcinoma cells.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRA-1-60 (TRA-1-60) is available conjugated to either phycoerythrin (sc-21705 PE), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

TRA-1-60 (TRA-1-60) is recommended for detection of TRA-1-60 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181.

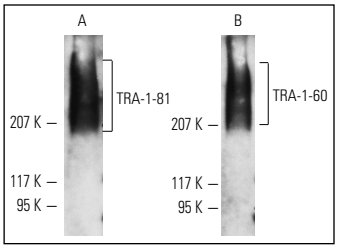
STORAGE

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

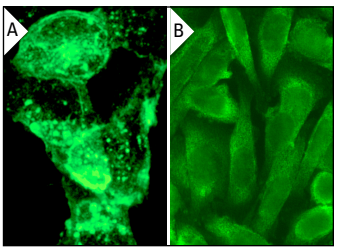
RESEARCH USE

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

DATA



Western blot analysis of TRA-1-81 (**A**) and TRA-1-60 (**B**) expression in NTERA-2 cl.D1 whole cell lysate. Antibodies tested include TRA-1-81 (TRA-1-80): sc-21706 (**A**) and TRA-1-60 (TRA-1-60): sc-21705 (**B**).



TRA-1-60 (TRA-1-60): sc-21705. Immunofluorescence staining of methanol-fixed NTERA2.D1 cells showing membrane localization (**A**). TRA-1-60 (TRA-1-60) Alexa Fluor® 488: sc-21705 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Heins, N., et al. 2004. Derivation, characterization, and differentiation of human embryonic stem cells. Stem Cells 22: 367-376.
2. Inzunza, J., et al. 2004. Comparative genomic hybridization and karyotyping of human embryonic stem cells reveals the occurrence of an isodicentric X chromosome after long-term cultivation. Mol. Hum. Reprod. 10: 461-466.
3. Strelchenko, N., et al. 2004. Morula-derived human embryonic stem cells. Reprod. Biomed. Online 9: 623-629.
4. Xu, Y., et al. 2017. Generation of an ASGR1 homozygous mutant human embryonic stem cell line WAe001-A-6 using CRISPR/Cas9. Stem Cell Res. 22: 29-32.
5. Liu, Y., et al. 2017. Generation of three miR-122 knockout lines from a human embryonic stem cell line. Stem Cell Res. 24: 164-168.
6. Liu, Y., et al. 2017. Generation of two MEN1 knockout lines from a human embryonic stem cell line. Stem Cell Res. 24: 169-173.
7. Wu, F., et al. 2017. Generation of a SMO homozygous knockout human embryonic stem cell line WAe001-A-16 by CRISPR/Cas9 editing. Stem Cell Res. 27: 5-9.
8. Bharathan, S.P., et al. 2017. Systematic evaluation of markers used for the identification of human induced pluripotent stem cells. Biol. Open 6: 100-108.
9. Borghesi, J., et al. 2017. Phenotype and multipotency of rabbit *(Oryctolagus cuniculus)* amniotic stem cells. Stem Cell Res. Ther. 8: 27.
10. Yoshida, S., et al. 2018. Characteristics of induced pluripotent stem cells from clinically divergent female monozygotic twins with Danon disease. J. Mol. Cell. Cardiol. 114: 234-242.

PROTOCOLS

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