

Antibodies

Catalog #60067

Anti-Human TRA-2-54 Antibody, Clone TRA-2-54/2J

Mouse monoclonal IgG1 antibody against human, chimpanzee, gibbon TRA-2-54 (tissue non-specific alkaline phosphatase), unconjugated

100 µg 0.5 mg/mL



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Product Description

The TRA-2-54/2J antibody reacts with the tissue non-specific isoform of alkaline phosphatase (AP), which is expressed at high levels in undifferentiated pluripotent stem cells such as human and mouse embryonic stem (ES) cells, as well as induced pluripotent stem (iPS) and embryonal carcinoma (EC) cells. This isozyme of AP is the same as that expressed by liver, bone and kidney cells. Levels of AP decrease upon differentiation and, thus, the TRA-2-54/2J antibody can be used to monitor the differentiation status of pluripotent stem cells. The TRA-2-54/2J antibody does not cross-react with other isozymes of AP, which differ through post-translational modification, and reportedly does not recognize AP from cow, dog, goat, Guinea pig, hamster, mouse, rat or sheep, or Old World Monkeys such as the rhesus monkey, baboon and African green monkey.

Target Antigen Name:	TRA-2-54
Alternative Names:	Liver/bone/kidney alkaline phosphatase, tissue non-specific alkaline phosphatase
Gene ID:	249
Species Reactivity:	Human, Chimpanzee, Gibbon, Gorilla, Orangutan, Owl Monkey, Squirrel Monkey, Cat, Pig, Rabbit, Tiger
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	TRA-2-54/2J
Isotype:	IgG1, kappa
Immunogen:	Human embryonal carcinoma cell line 2102Ep
Conjugate:	Unconjugated

Applications

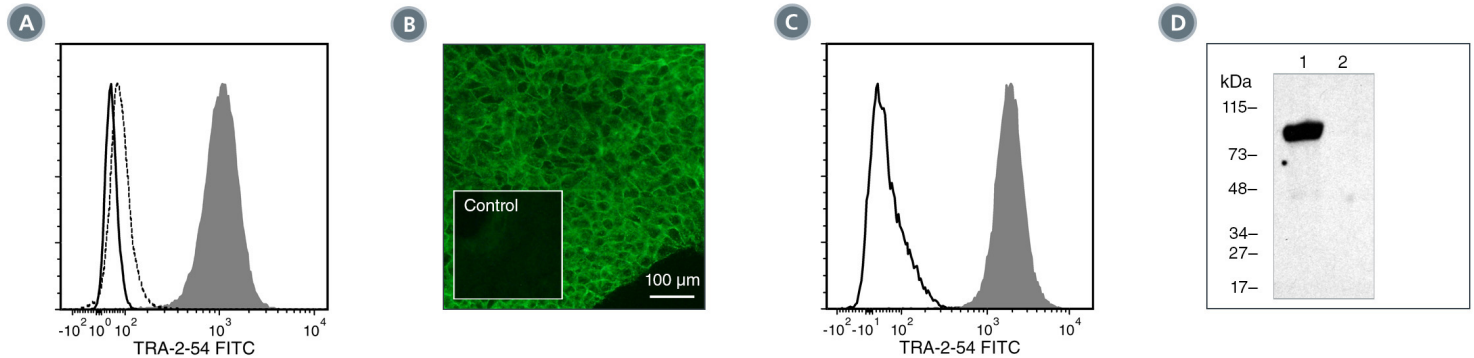
Verified:	FC, ICC, IF, WB
Reported:	FC, ICC, IF, IHC
Special Applications:	This antibody clone has been verified for labeling human ES and iPS cells grown in TeSR™-E8™ (Catalog #05940), mTeSR™1 (Catalog #05850) and TeSR™2 (Catalog #05860).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: FC, ≤ 0.5 µg per 1 × 10 ⁶ cells in 100 µL volume; ICC/IF, ≤ 10 µg/mL; WB, ≤ 2 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of human ES cells (filled histogram) or HT1080 fibrosarcoma cells (negative control; dashed line histogram) labeled with Anti-Human TRA-2-54 Antibody, Clone TRA-2-54/2J, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (Catalog #60138FI). Labeling of human ES cells with Mouse IgG1, kappa Isotype Control Antibody, Clone MOPC-21 (Catalog #60070), followed by Goat Anti-Mouse IgG (H+L), Polyclonal, FITC is shown (solid line histogram).

(B) Human ES cells were cultured in mTeSRTM1 on Corning® Matrigel®-coated glass slides, then fixed and labeled with Anti-Human TRA-2-54 Antibody, Clone TRA-2-54/2J, followed by goat anti-mouse IgG, FITC. Inset shows cells labeled with a mouse IgG1, kappa isotype control antibody, followed by goat-anti-mouse IgG, FITC.

(C) Flow cytometry analysis of human iPS cells labeled with Anti-Human TRA-2-54 Antibody, Clone TRA-2-54/2J, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (filled histogram), or a mouse IgG1, kappa isotype control antibody, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (solid line histogram).

(D) Western blot analysis of denatured/reduced cell lysates from human ES cells (lane 1) or HT1080 fibrosarcoma cells (negative control, lane 2) with Anti-Human TRA-2-54 Antibody, Clone TRA-2-54/2J.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Zou XY et al. (2012) Establishment of transgene-free induced pluripotent stem cells reprogrammed from human stem cells of apical papilla for neural differentiation. *Stem Cell Res Ther* 3(5): 43. (ICC, IF)
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7. Swallow DM et al. (1986) Mapping of the gene coding for the human liver/bone/kidney isozyme of alkaline phosphatase to chromosome 1. *Ann Hum Genet* 50(Pt 3): 229–35.
8. Andrews PW et al. (1984) Two monoclonal antibodies recognizing determinants on human embryonal carcinoma cells react specifically with the liver isozyme of human alkaline phosphatase. *Hybridoma* 3(1): 33–9.

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