

## Antibodies

### Anti-Human TRA-1-81 Antibody, Clone TRA-1-81

Mouse monoclonal IgM antibody  
against human, rat, rhesus TRA-1-81,  
unconjugated

Catalog #60065

100 µg 0.5 mg/mL



Scientists Helping Scientists™ | [WWW.STEMCELL.COM](http://WWW.STEMCELL.COM)

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

## Product Description

The TRA-1-81 antibody reacts with a carbohydrate epitope on TRA-1-81, a high-molecular-mass (> 200 kDa) glycoprotein expressed on the surface of human embryonal carcinoma (EC), embryonic germ (EG), embryonic stem (ES), and induced pluripotent stem (iPS) cells, as well as rhesus monkey and rat ES cell lines. No immunoreactivity is observed with mouse EC, EG, ES, or iPS cells. The epitope of the TRA-1-81 antibody is associated with a keratan-sulfated transmembrane protein identified as podocalyxin and is resistant to treatment with neuraminidase.

Target Antigen Name:	TRA-1-81
Alternative Names:	Podocalyxin
Gene ID:	5420
Species Reactivity:	Human, Rat, Rhesus
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	TRA-1-81
Isotype:	IgM, kappa
Immunogen:	Human embryonal carcinoma cell line 2102Ep cl.2A6
Conjugate:	Unconjugated

## Applications

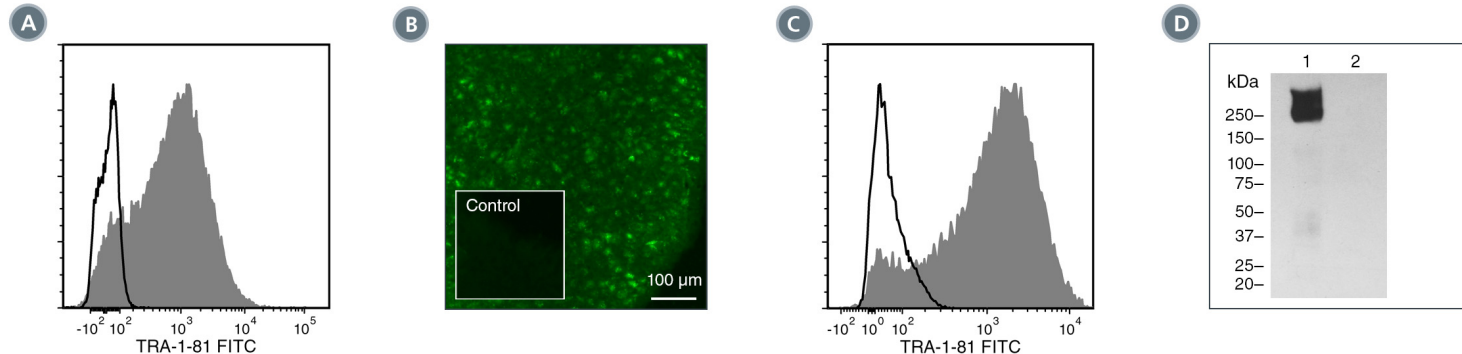
Verified:	FC, ICC, IF, WB
Reported:	ELISA, FC, ICC, IF, IHC, IP, WB
Special Applications:	This antibody clone has been verified for labeling human ES and iPS cells grown in TeSR™-E8™ (Catalog #05940), mTeSR™1 (Catalog #05850) and TeSR™2 (Catalog #05860).

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:	Aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer
Purification:	The antibody was purified by column chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact <a href="mailto:techsupport@stemcell.com">techsupport@stemcell.com</a> .
Directions for Use:	The suggested use of this antibody is: FC, ≤ 0.5 µg per 1 × 10 <sup>6</sup> cells in 100 µL volume; ICC/IF, ≤ 5 µg/mL; WB, ≤ 0.5 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 labeled with Anti-Human TRA-1-81 Antibody, Clone TRA-1-81, followed by goat anti-mouse IgM, FITC (filled histogram), or Mouse IgM, kappa Isotype Control Antibody, Clone MM-30 (Catalog #60069), followed by goat anti-mouse IgM, FITC (solid line histogram).

(B) Human ES cells were cultured in mTeSR™1 on Corning® Matrigel®-coated glass slides, then fixed and labeled with Anti-Human TRA-1-81, Clone TRA-1-81, followed by goat anti-mouse IgG, FITC. Inset shows cells labeled with Mouse IgM, kappa Isotype Control Antibody, Clone MM-30, followed by goat anti-mouse IgG, FITC.

(C) Flow cytometry analysis of human iPS cells labeled with Anti-Human TRA-1-81 Antibody, Clone TRA-1-81, followed by Goat Anti-Mouse IgG (H+L) Antibody, Polyclonal, FITC (Catalog #60138FI) (filled histogram), or Mouse IgM, kappa Isotype Control Antibody, Clone MM-30, 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 (lane 2) with Anti-Human TRA-1-81 Antibody, Clone TRA-1-81.

## 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](http://www.stemcell.com/antibodies) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

- Natunen S et al. (2011) The binding specificity of the marker antibodies Tra-1-60 and Tra-1-81 reveals a novel pluripotency-associated type 1 lactosamine epitope. *Glycobiology* 21(9): 1125–30. (FC)
- Miyoshi N et al. (2010) Defined factors induce reprogramming of gastrointestinal cancer cells. *Proc Natl Acad Sci USA* 107(1): 40–5. (IF)
- Kuai XL et al. (2009) Differentiation of nonhuman primate embryonic stem cells along neural lineages. *Differentiation* 77(3): 229–38. (IF)
- Lowry WE et al. (2008) Generation of human induced pluripotent stem cells from dermal fibroblasts. *Proc Natl Acad Sci USA* 105(8): 2883–8.
- Ueda S et al. (2008) Establishment of rat embryonic stem cells and making of chimera rats. *PLoS One* 3(7): e2800. (IF)
- Schopperle WM & DeWolf WC. (2007) The TRA-1-60 and TRA-1-81 human pluripotent stem cell markers are expressed on podocalyxin in embryonal carcinoma. *Stem Cells* 25(3): 723–30.
- Henderson JK et al. (2002) Preimplantation human embryos and embryonic stem cells show comparable expression of stage-specific embryonic antigens. *Stem Cells* 20(4): 329–37. (FC, IF)
- Thomson JA et al. (1995) Isolation of a primate embryonic stem cell line. *Proc Natl Acad Sci USA* 92(17): 7844–8. (IHC)
- Andrews PW et al. (1984) Three monoclonal antibodies defining distinct differentiation antigens associated with different high molecular weight polypeptides on the surface of human embryonal carcinoma cells. *Hybridoma* 3(4): 347–61. (FC, IHC, WB)

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2016 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design and Scientists Helping Scientists are trademarks of STEMCELL Technologies Inc. TeSR, E8 and mTeSR are trademarks of WARF. Matrigel is a trademark of Corning® Incorporated. All other trademarks are the property of their respective holders. Alexa Fluor® is a registered trademark of Life Technologies Corporation. This product is licensed for internal research use only and its sale is expressly conditioned on the buyer not using it for manufacturing, performing a service, or medical test, or otherwise generating revenue. For use other than research, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or [outlicensing@lifetech.com](mailto:outlicensing@lifetech.com). While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.