Product Specification Sheet

Product Name	Stemgent® TRA-1-81 Antibody (Purified), Mouse anti-Human
Description	The TRA-1-81 monoclonal antibody reacts with a pluripotent-stem-cell-specific antigen expressed upon the surface of human embryonic stem (ES) cells, embyronal carcinoma (EC) cells, and embryonic germ (EG) cells. The expression of TRA-1-81 antigen is stage-specific; as human EC and ES cells undergo differentiation, expression of TRA-1-81 antigen is lost, making it a widely used marker to characterize human ES cells and to monitor their differentiation. TRA-1-81 antibody recognizes a carbohydrate epitope expressed on podocalyxin, a sialoglycoprotein structurally related to CD34. Podocalyxin is a transmembrane glycoprotein which has been implicated in the development of aggressiveness in a variety of cancers, including breast and prostate cancer.
Catalog Number	09-0011
Size	100 µl
Concentration	0.5 mg/ml
Clone	TRA-1-81
Isotype	Mouse IgM, κ
Immunogen	Human embryonal carcinoma cell line 2102Ep
Reactivity	Human
Preparation	This antibody was purified by affinity chromatography.
Formulation	Phosphate-buffered solution, pH 7.2, and 0.09% sodium azide
Storage and Stability	Store at 4˚C protected from light. Do not freeze. Stable for 6 months from date of receipt when stored as directed.
Quality Control	Tested by immunocytochemistry (**Figure 1**) and flow cytometry (**Figure 2**) to ensure product quality.
Recommended Usage	The suggested use of this antibody is a 1:100 dilution for immunocytochemistry and 0.25 µg per 1 x 10^6 viable cells in 100 µl for flow cytometry. For application specific protocols, please reference *Protocol: Immunocytochemistry* and *Protocol: Flow Cytometry* online at www.stemgent.com/support/protocols.

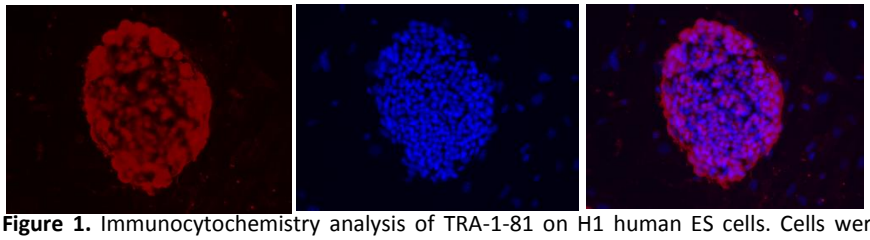

Figure 1. Immunocytochemistry analysis of TRA-1-81 on H1 human ES cells. Cells were stained with TRA-1-81 Antibody (Purified) at a 1:100 dilution followed by a secondary Cy™ 3 conjugated antibody (red). DAPI staining was performed to visualize nuclei (blue).

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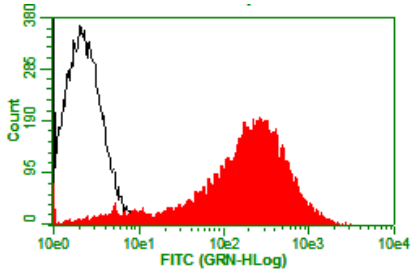

Figure 2. Flow cytometry analysis of TRA-1-81 on H1 human ES cells. Red histogram represents TRA-1-81 Antibody (Purified) and open histogram represents isotype control at the same concentration.

References

1. Andrews, P.W., Banting, G., Damjanov, I., Arnaud, D., and Avner, P. (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: 347-361.
2. Yu, J., Vodyanik, M.A., Smuga-Otto, K., Antosiewicz-Bourget, J., Frane, J.L., Tian, S., Nie, J., Jonsdottir, G.A., Ruotti, V., Stewart, R., Slukvin, I.I., and Thomson, J.A. (2007) Induced pluripotent stem cell lines derived from human somatic cells. Science 318: 1917-1920.
3. Henderson, J.K., Draper, J.S., Baillie, H.S., Fishel, S., Thomson, J.A., Moore, H., and Andrews, P.W. (2002) Preimplantation human embryos and embryonic stem cells show comparable expression of stage-specific embryonic antigens. Stem Cells 20: 329-337.
4. Schopperle, W.M., and DeWolf, W.C. (2007) The TRA-1-60 and TRA-1-81 human pluripotent stem cell markers are expressed on podocalyxin in embryonal carcinoma. Stem Cells 25: 723-730.

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