MONOCLONAL ANTIBODY

For research use only, Not for diagnostic use.

Cat. No AMS.RIT-M001

Anti KS [Keratan Sulfate] (R-10G)

- KS lacking oversulfated structures -

BACKGROUND

Monoclonal antibody R-10G recognises Keratan Sulfate lacking oversulfated structures in oligosaccharide segments of Keratan Sulfate glycosaminoglycan chains on hiPS cells.Digestion with Keratanase II, Keratanase or Endo-β-galactosidase removes these epitopes from Keratan Sulfate proteoglycans.
R-10G is useful as a potent tool for the evaluation and standardization of hiPS cells in regenerative medicine.

Product type	Primary antibody
Immunogen	Human iPS cell (Tic)
Host Species	Mouse (C57BL/6)
Fusion Partner	P3U1
Clone Designation	R-10G
Isotype	IgG1
Source	Ascites
Purification	Affinity purified by Protein G
Form	Liquid
Formulation Buffer	Phosphate buffered saline. *NOTE:PBS doesn't contain preservative.Preservative is added based on the research purpose
Concentration	1 mg / mL
Volume	100 ul
Label	Unlabeled
Specificity	R-10G epitopes are oligosaccharide segments of Keratan Sulfate glycosaminoglycan chains consisting of disaccharide-repeating units with galactose and 6-sulfated *N*-acetyl-glucosamine, lacking oversulfated structures. Digestion with Keratanase II, Keratanase or Endo-β-galactosidase removes these epitopes from Keratan Sulfate glycosaminoglycan chains. **R-10G epitopes are expressed on human iPS/ES cells but not on human EC cells**.
Cross species reactivity	Human, Other species have not been tested.
Storage Conditions	Store at -70°C. Aliquot to avoid cycles of freeze / thaw.

Application notes
Recommended dilutions

- **Western blotting** : 3 µg / mL
- **Immunofluorescence** : 10 µg / mL

Other applications have not been tested.
Optimal dilutions/concentrations should be determined by the end user.

References

1) Kawabe K, *et al*, A novel antibody for human-induced pluripotent stem cells and embryonic stem cells recognizes a type of keratan sulfate lacking oversulfated structures. Glycobiology. 2013 Mar;23(3):322-36. PubMed: 23154990
2) Schopperle WM, *et al*, The TRA-1-60 and TRA-1-81 human pluripotent stem cell markers are expressed on podocalyxin in embryonal carcinoma. Stem Cells. 2007 Mar;25(3):723-30. PMID: 17124010
3) 川嵜敏祐等 実験医学, 30(10), 129-133 (2013)

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[ANTIBODY CHARACTERIZATION]

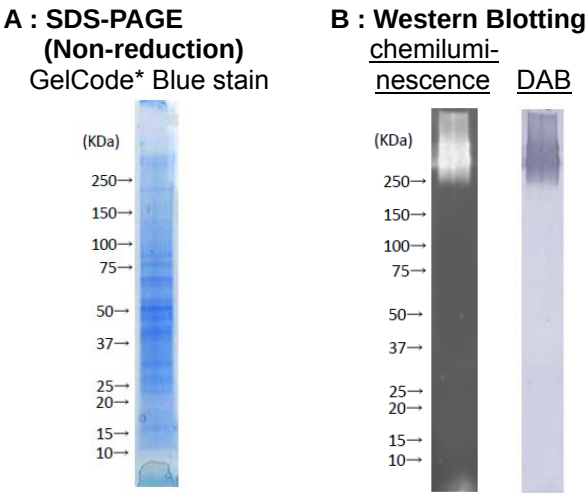

Fig.1 Screening of R-10G mAb by western blotting. Tic cell lysates in the complete RIPA buffer were resolved by SDS-PAGE on a 4-15% gradient gel under nonreducing conditions, followed by immunoblot detection with R-10G.
A : GelCode* Blue staining of SDS-PAGE of the Tic cell lysates (10ug protein)**.**
B : Tic cell lysates were analyzed by western blotting with R-10G.
The molecular mass markers are shown on the left.

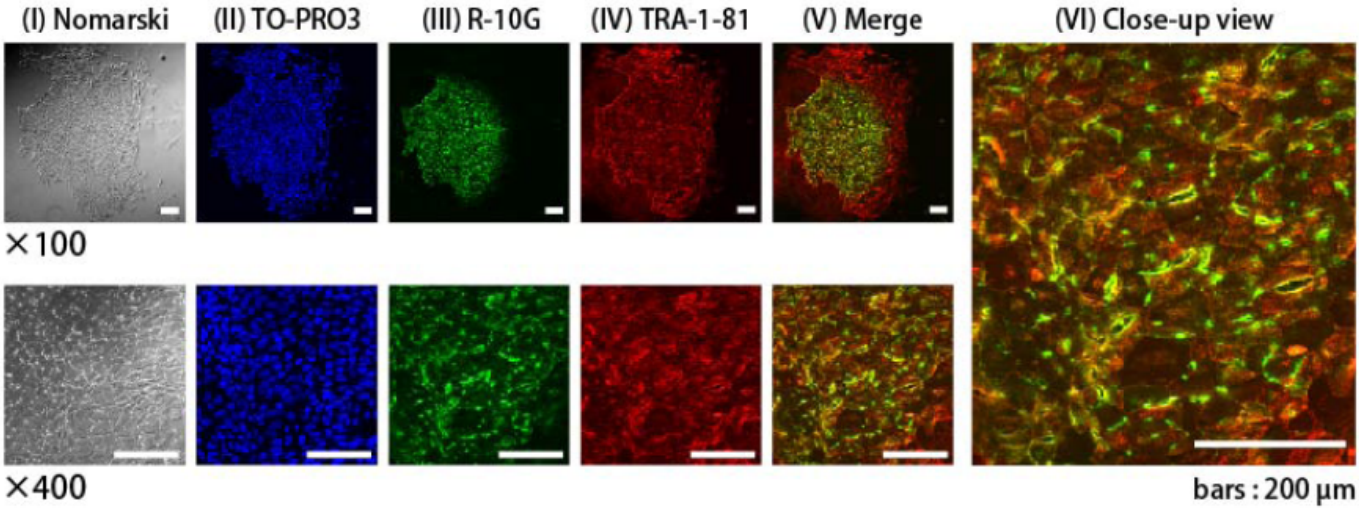

Fig. 2. Localization of the R-10G and TRA-1-81 epitopes on cultured Tic cells visualized on laser confocal microscopy. Tic cells cultured on Millicell* EZ slides were double-stained first with R-10G and Alexa Fluor 488-conjugated secondary (anti-mouse IgG1) antibody, followed by with TRA-1-81 and Alexa Fluor 555-conjugated secondary (anti-mouse IgM) antibody. Cells were observed at two different magnifications: ×100 (upper panel) and ×400 (lower panel).
(I) Nomarski imaging. **(II)** Nuclear counterstaining with TO-PRO*-3. **(III)** Antigens for R-10G (green). **(IV)** Antigens for TRA-1-81 (conventional hiPS marker antibody) (red). **(V)** Merged image of (III) and (IV). **(VI)** Close-up view of V (×400).

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