# Anti Human Collagen IV α Chain Monoclonal antibodies

## For staining human renal and skin biopsy sections easily and rapidly!

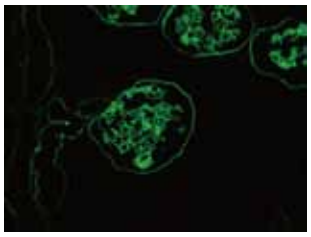
Epitope-defined monoclonal antibodies against the NC1 domains of α1 - α6 (IV) chains of type-IV collagen are against the triple-helical domain. These epitope-defined monoclonal antibodies against different site of the collagen molecule are useful for research on type-IV collagen and diagnosis of hereditary disease related to this collagen because of their reliability.

### Line UP : Anti Human collagen IV, Rat monoclonal

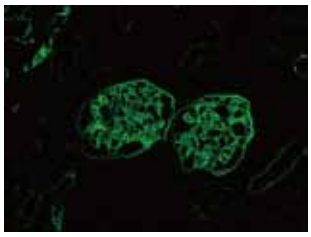
| Clone | Subclass | Specificity | α 1 | α 2 | α 3 | α 4 | α 5 | α 6 | Epitope |
|---|---|---|---|---|---|---|---|---|---|
| H53 | IgG2aκ | imperfection III | − | − | − | − | + | − | DVEF with an amino acid sequence[1)] |
| B51 | IgG2a | NC1 domain[3)] | − | − | − | − | + | − | unknown |
| H25 | IgG1κ | imperfection XIII | − | + | − | − | − | − | EAIQP with an amino acid sequence[1)] |
| H52 | IgG2bκ | NC1 domain[4)] | − | − | − | − | + | − | SKPQSETL with an amino acid sequence |

### The chromatic figure of normal human kidney stained with the product.

#### H53

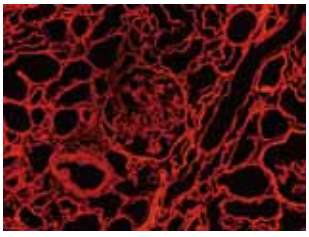


#### B51



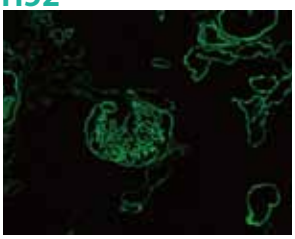
Applicable to staining for basement membrane of glomerular, Bowman's capsular and partial renal tubular.

#### H25



Applicable to staining for basement membrane of glomerular, Bowman's capsular, renaltubular and capillary vessel.

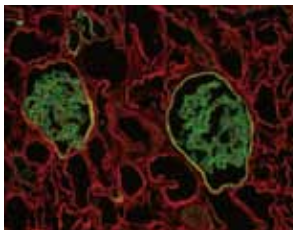
#### H52



Human cryostat section stained with monoclonal antibody H52.
Glomerular basement membrane (BM), part of tubular BM, and Bowman's capsular BM are stained.

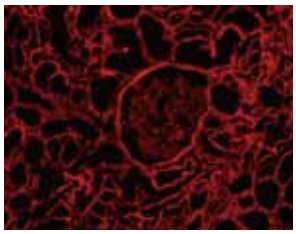
### H53, B51, H25 Cocktail

This product can be used for staining human renal and skin biopsy sections easily and rapidly as two monoclonal antibodies are conjugated with two different fluorochromes. Cocktail ( H53+B51+H25 ) is useful especially for research of Alport syndrome*



**Double exposure of normal human kidney section stained with the product.**

FITC fluorescence ( α 5 chain) is observed in the GBM, part of the TBM and Bowman's capsular BM. BMs were two fluorochromes are present look orange to yellow.



**Double exposure of Alport human kidney section stained with the product.**

Because no FITC fluorescence ( α 5 chain) is observed in the kidney of the patient with X-linked Alport syndrome, only Texas Red fluorescence ( α 2 chain) is confirmed.

*Alport syndrome, an inherited disease, shows the absence or reduction of the α 5(IV) chain in the glomerular, tubular and Bowman's capsular basement membranes.

# Anti Human Collagen IV α Chain Monoclonal antibodies

## Anti Human Collagen IV α Chain Monoclonal antibody series

| Specification | Clone | Labeling | Cat. No. | Specificity | Size | Acid treatment | Storage | Application |
|---|---|---|---|---|---|---|---|---|
| Cocktail* | H53 | FITC | SGE-CFT45325 | α 5 | 1 ml | unnecessary | 4℃ in dark | Immunofluorescence (Frozen section) |
| | B51 | FITC | | α 5 | | | | |
| | H25 | Texas Red | | α 2 | | | | |
| Single | H53 | FITC | SGE-CFT453 | α 5 | 500 µl | unnecessary | 4℃ in dark | |
| | | No labeled | SGE-C453 | | | | −20℃ | |
| | B51 | FITC | SGE-CFT451 | α 5 | | unnecessary | 4℃ in dark | |
| | | No labeled | SGE-C451 | | | | −20℃ | |
| | H25 | Texas Red | SGE-CFT425 | α 2 | | unnecessary | 4℃ in dark | |
| | | No labeled | SGE-C425 | | | | −20℃ | |
| | H52 | No labeled | SGE-C452 | α 5 | | necessary | −20℃ | WB Immunofluorescence (Frozen section) |

＊Useful for a study of the Alport syndrome

【Appearance】 Labeled antibody : affinity purified from supernatant.
No labeled antibody : Collected from supernatant by high-density culture and diluted with serum GIF medium. (Containing 10% FBS).

## Citation

- Samar M. Said Brooke McCann *et al.* Negative Staining for COL4A5 Correlates With Worse Prognosis and More Severe Ultrastructural Alterations in Males With Alport Syndrome. *Kidney Int Rep.* **2** (1): 44-52. (2017)
- Malone AF, Miner JH *et al.* Functional assessment of a novel COL4A5 splice region variant and immunostaining of plucked hair follicles as an alternative method of diagnosis in X-linked Alport syndrome. *Pediatr Nephrol.* **32** (6): 997-1003. (2017)
- Nozu K , Makita J *et al.* X-linked Alport syndrome caused by splicing mutations in COL4A5. *Am Soc Nephrol.* **9** (11): 1958-64. (2014)
- Matsubara S, Suzuki M.J et al. Pregnancy complicated with Alport syndrome: a good obstetric outcome and failure to diagnose an infant born to a mother with Alport syndrome by umbilical cord immunofluorescence staining. *Obstet Gynaecol Res.* **35** (6): 1109-14. (2009)
- Patey-Mariaud de Serre N, Knebelmann B *et al.* Collagen alpha5 and alpha2(IV) chain coexpression: analysis of skin biopsies of Alport patients. *Kidney Int.* **72** (4): 512-6. (2007)
- Kharrat M, Saudi J *et al.* Autosomal dominant Alport's syndrome: study of a large Tunisian family. *Kidney Dis Transpl.* **17** (3): 320-5. (2006)

## References


1) Kagawa M *et al.* Epitope-defined monoclonal antibodies against type-IV collagen for diagnosis of Alport's syndrome. *Nephrol. Dial. Transplant.* **12**: 1238-1241. (1997)
2) Naito I *et al.* Relationship between COL4A5 gene mutation and distribution of type IV collagen in male X-linked Alport syndrome. *Kidney Int.* **50**: 304-311. (1996)
3) Borza DB *et al.* The NCI domain of collagen IV encodes a novel network composed of the alpha 1, alpha 2, alpha 5, and alpha 6 chains in smooth muscle basement membranes. *J. Biol. Chem.* **276**: 28532-28540. (2001)
4) Sado *et al.* Establishment by the rat lymph node method of epitope-defined monoclonal antibodies recognizing the six different a chains of human type IV collagen. Histochem. *Cell Biol.* **104**: 267-275. (1995)


**Producer : Shigei Medical Research Institute**

All antibodies were prepared by the rat lymph node method developed by Shigei Medical Research Institute.

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