funakoshi
FRONTIERS IN LIFE SCIENCE

Research Use Only

JAPAN MADE QUALITY

Anti-Laminin-α3A
Anti-Laminin-α3B
Anti-Laminin-γ2 N-terminal
Anti-Laminin-511

For more information : http://www.funakoshi.co.jp/exports_contents/81185

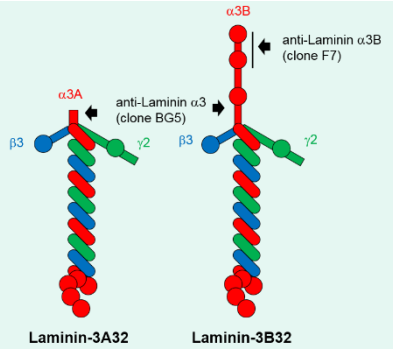
Laminins are major extracellular matrix proteins containing over 15 members. Laminins are large hetero-trimers consisting of 5 alpha chains, 3 beta chains, and 3 gamma chains. Due to its structural varieties, it has been challenging to detect each laminin isoform by conventional antibodies.
Funakoshi commercialized 4 unique antibodies, originally developed by Dr. Kaoru Miyazaki, Professor Emeritus of Yokohama City University in Japan.

Our antibodies can separately recognize specific isoforms or structures of laminin.

This product has been commercialized under the license of the Yokohama City University.

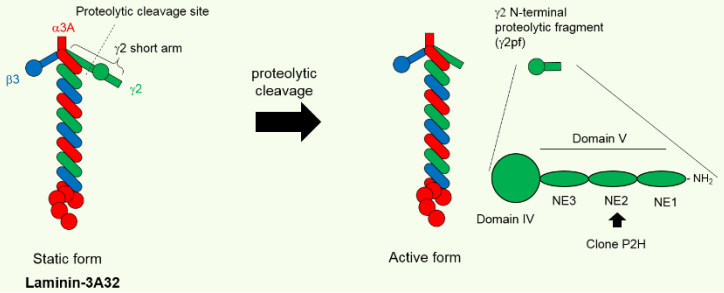
■ Anti-Laminin-α3A (BG5) / Anti-Laminin-α3B (F7)

These antibodies recognize isoforms of Laminin-332 (Lm332), which is related to cancer. Clone BG5 is a specific antibody for alpha 3A. In IHC, BG5 recognizes Lm3A31 and Lm3A11 on basement membrane. Clone F7 is the world first commercially available antibody for alpha 3B. F7 recognizes Lm3B32 and Lm3B11.
Both clones are useful for testing cancer malignancy and identifying various specific functions of Laminin.



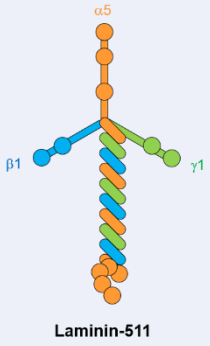
■ Anti-Laminin-γ2 N-terminal Fragment (P2H)

Laminin gamma2, the only component of Lm332, is a marker gene of invasive cancer tissue.
Laminin gamma-2 chain is activated via proteolytical cleavage at N-terminal. N-terminal proteolytic fragment of gamma-2, called γ2pf, is highly accumulated in cytosol under malignant cancer.
Clone P2H is the world first antibody for γ2pf.



■ Anti-Laminin-511 (12D)

There are two similar isoforms, Lm511 and Lm521, and it was difficult for conventional antibodies such as anti-alpha 5 chain to separate them. Clone 12D specifically reacts with trimeric structure of Lm511, but does not react with each component and similar isoform, Lm521. In human cancers, clone 12D detects small vascular vessels with high sensitivity and hence useful for evaluating tumor angiogenesis.



Citation and Reference

1.Kariya, Y., *et al*., *J. Mol. Histol*., **39**, 435-446 (2008) (BG5 / F7)
2.Mori, T., *et al*., *Cancer Sci*., **102**, 1095-1100 (2011) (F7)
3.Miyazaki, K., *et al*., *Cancer Sci*., **107**, 1909-1918 (2016) (BG5 / P2H)
4.Komiya, E., *et al., Cancer Med*., **3**, 537-549 (2014) (12D)

Product Information

[Manufacturer : FNA]

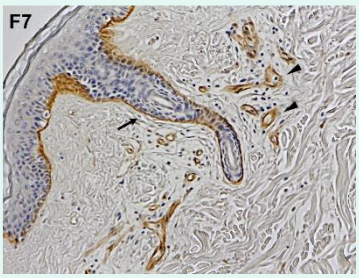
Description (Clone)	Anti-Laminin-α3A (BG5)	Anti-Laminin-α3B (F7)	Anti-Laminin-γ2 N-terminal Fragment (P2H)	Anti-Laminin-511 (12D)
Specificity	Laminin-α3A *1	Laminin-α3B	Laminin-γ2 Domain V-NE2	Laminin-511（Lm511）
Host and Form	Mouse Ascites (Not Purified, Non-preservative)			
Subclass	IgG_{2a}	IgG_1	IgG_{2a}	IgG_{2b}
Cross reactivity	Human		Human and Mouse	Human
Application	ELISA, IHC, IP, WB		IHC(Frozen & Paraffin), WB	IHC(Frozen), IP, WB(Non-reducing) *2
Code	FDV-0024	FDV-0023	FDV-0025	FDV-0026
Size	100 μl	100 μl	100 μl	100 μl
Shipping & Storage	-20℃			

*1 : In IHC, only detects α3A. In ELISA, IP and WB, also detects α3B.

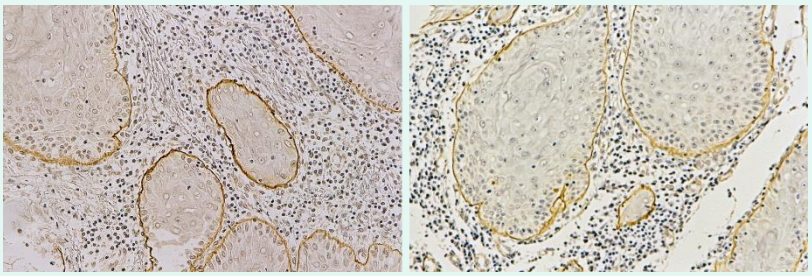
*2 : 12D can not be used for Paraffin section or Reducing condition.

Example Data

■ Anti-Laminin-α3A (BG5) / Anti-Laminin-α3B (F7)



IHC image of skin cancer tissue in clone BG5 and F7
Left : Clone BG5, Right : Clone F7
Both clones detected basal membrane like structure around the tumor, but F7 clone also detected vascular basement membrane (arrow heads).



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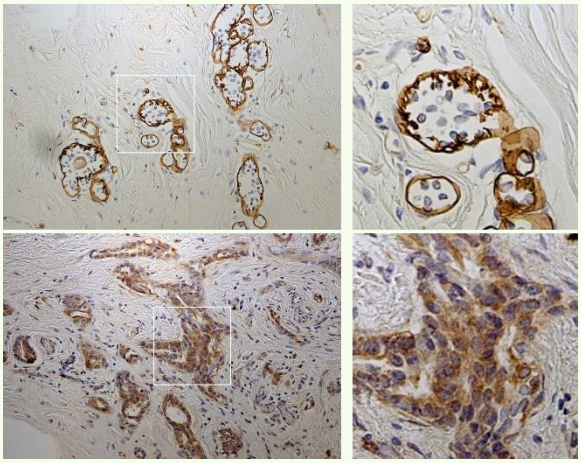
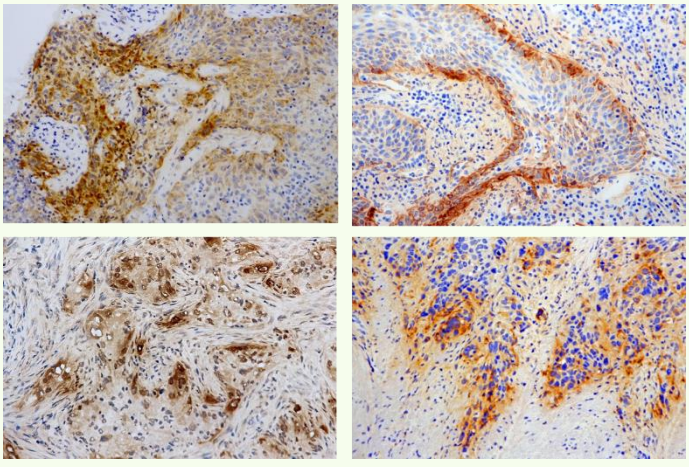
■ Anti-Laminin-γ2 N-terminal Fragment (P2H)

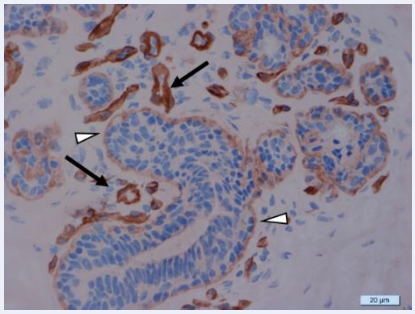


IHC image of tissues in clone P2H
Upper images : Normal mammary gland
Lower images : Breast cancer
P2H stained basement membranes surrounding mammary glands in normal tissue, whereas in a breast cancer tissue cytoplasmic accumulation of γ2pf or its fragments is detected.

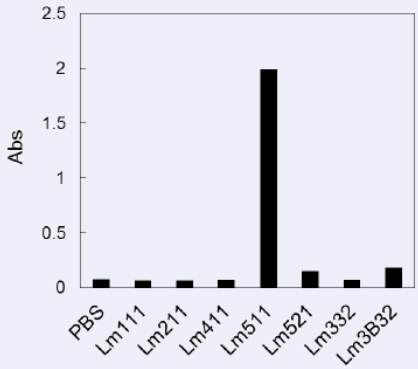


IHC image of tissues in clone P2H
Upper images : Invasive lung SCC
Lower images : Invasive lung ADC
P2H strongly detected cytoplasm of cancer cells at invasion fronts.
(SCC : Squamous Cell Carcinoma ADC : Adenocarcinoma)

■ Anti-Laminin-511 (12D)



IHC image of human normal mammary gland in clone 12D
Black arrows : Vascular basement membrane
White arrowheads : Mammary gland basement membrane



Specificity of clone 12D against laminin isoforms
Seven recombinant human laminins were coated on a multi-well plate and detected by clone 12D. The data shows clone 12D specifically reacted with Laminin 511.