



Qty: 100 µg/200 µL
Mouse anti-Cystatin A
Catalog No.: 438000

Mouse anti-Cystatin A

FORM

This affinity-purified mouse monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

Clone: WR 23/2/3 Isotype: IgG1

IMMUNOGEN

Human palatine tonsils extract of cystatin A protein (accession # P01040, NP_005204), which is 92% similar to Rhesus monkey, 77% similar to horse, 75% similar to feline and bovine and finally, 74% similar to pig.

SPECIFICITY

This antibody is specific for human cystatin A (Stefin-A, Cystatin-AS, CYTA_human) protein. On Western blots of human thymus extract, it identifies the target band at ~12 kDa. This antibody does not cross react with closely related human cystatin B (Stefin-B, NCPI).

REACTIVITY

Reactivity has been confirmed with human thymus extract using Western blotting. The reactivity has also been confirmed with human formalin-fixed paraffin-embedded infiltrative breast carcinomas by immunohistochemistry.³ Based on amino acid sequence homology, reactivity with Rhesus monkey, horse, cat, bovine and pig, is also expected.

Sample	Western Blotting	Immunohistochemistry
Human	+++	+++
Monkey (Rhesus)	ND	ND
Horse	ND	ND
Feline	ND	ND
Bovine	ND	ND
Pig	ND	ND

(Excellent +++, Good ++, Poor +, No reactivity 0, Not applicable N/A, Not determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 2 µg/mL
Immunohistochemistry: 2 µg/mL

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STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

BACKGROUND

The cystatin superfamily encompasses proteins, like cathepsin B, H, L and S, that contain multiple cystatin-like sequences. Some of the members are active cysteine protease inhibitors, while others have lost or perhaps never acquired this inhibitory activity.¹ Cystatin A, a cysteine proteinase inhibitor, is one of the precursor proteins of cornified cell envelope of keratinocytes and is expressed during the late stage of keratinocyte differentiation.² This protein is also detected in squamous epithelium, follicular dendritic cells in lymphoid tissues, thymic epithelial cells, liver cells, granulocytes and basal epithelial cells in the prostate.

Cystatins have been proposed as prognostic and diagnostic tools for cancer.² It has been also proposed that cystatins can induce tumour necrosis factor and interleukin 10 synthesis and stimulate nitric oxide production.^{2,3} Cystatin A has been demonstrated as a tumor suppressor in breast cancer,³ due to an inverse correlation that exists between the level of cystatin A and tumor progression. It has been shown that cystatin A suppresses UVB-induced apoptosis of keratinocytes by the inhibition of caspase 3 activation.⁴ Finally cystatin A is found to be a sensitive marker during HIV-1 infection and for regeneration of follicular lymphoid tissue during highly active antiretroviral therapy (HAART).⁵

REFERENCES

1. Hidetoshi T et al. *J Biol Chem* 273(28) 17375-17380, 1998.
2. Kopitar-Jerala N *FEBS Lett* 580(27):6295-301, 2006.
3. Teijo K et al. *Cancer research* 58, 432-436, 1998.
4. Takahashi H et al. *J Dermatol Sci.* 46(3):179-87, 2007.
5. Voltersvik P et al. *J Acquir Immune Defic Syndr* 41(3):277-84, 2006.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

Conjugate	Goat anti-rabbit IgG (H+L)	Goat anti-mouse IgG (H+L)	Ex/Em*	Fluorescence similar to--
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

*Excitation/emission (nm); **Not applicable

For additional secondary antibody conjugates, visit www.invitrogen.com/antibodies

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