Technical Data Sheet Purified Mouse Anti-Cathepsin D

Product Information

Material Number:	610801
Size:	150 µg
Concentration:	250 µg/ml
Clone:	49/Cathepsin D
Immunogen:	Human Cathepsin D
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human
Target MW:	43/28 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and $\leq 0.09\%$ sodium azide.

Description

Cathepsin D, an enzyme that degrades proteins, was originally cloned during the search of estrogen responsive genes in MCF-7 cells. Cathepsin D is synthesized as the 43kDa preprocathepsin D that is cleaved to form a 46kDa glycosylated procathepsin D. Procathepsin is then processed into a 44kDa active Cathepsin D. The active and mature forms undergo a further cleavage that yields 28kDa and 15kDa (heavy and light chains, respectively) fragments in SDS-PAGE. The heavy and light chains of Cathepsin D are released into the extracellular medium. The maturation process of Cathepsin D occurs through the transit from the endoplasmic reticulum, Golgi apparatus, and to the lysosomes. Estrogens stimulate cell proliferation in a number of tumor cell lines and anti-estrogen therapy is often used in the treatment of breast cancer patients. Therefore, Cathepsin D, which is estrogen inducible, may have a role during the pathogenesis of breast tumors. Additionally, several other roles have been proposed for this enzyme, such as tissue remodeling, tumor invasion, and embryo implantation.



Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20°C.

Application Notes

Application	
Western blot	Routinely Tested
Immunoprecipitation	Not Recommended
Immunofluorescence	Not Recommended
Immunohistochemistry	Not Recommended

Recommended Assay Procedure:

Recommended Assay Flocedure.							
BD Biosciences							
bdbiosciences.	com						
United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean		
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Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
611555	HepG2 Cell Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.

2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

- 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
- 4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Erickson AH, Conner GE, Blobel G. Biosynthesis of a lysosomal enzyme. Partial structure of two transient and functionally distinct NH2-terminal sequences in cathepsin D. J Biol Chem. 1981; 256(21):11224-11231. (Biology)

Faust PL, Kornfeld S, Chirgwin JM. Cloning and sequence analysis of cDNA for human cathepsin D. *Proc Natl Acad Sci U S A*. 1985; 82(15):4910-4914. (Biology) Kageyama T, Takahashi K. A cathepsin D-like acid proteinase from human gastric mucosa. Purification and characterization. *J Biochem (Tokyo)*. 1980; 87(3):725-735. (Biology)

Westley BR, May FE. Oestrogen regulates cathepsin D mRNA levels in oestrogen responsive human breast cancer cells. *Nucleic Acids Res.* 1987; 15(9):3773-3786. (Biology)