Technical Data Sheet

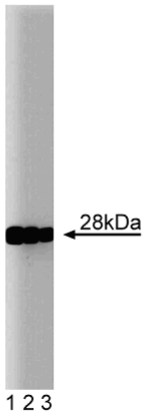
Purified Mouse Anti-Cathespin D

Product Information

Material Number:	**610800**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	49/Cathepsin D
Immunogen:	Human Cathespin D
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human
Target MW:	43/28 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤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.



Western blot analysis of Cathespin D on HepG2 cell lysate. *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000, dilution of anti-Cathespin D antibody.*

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
Immunofluorescence	Not Recommended
Immunohistochemistry	Not Recommended
Immunoprecipitation	Not Recommended

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Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml.

Suggested Companion Products

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