

# Cathepsin D, Active, Human Recombinant

**CATALOG #:** 9229-10 10 µg  
 9229-50 50 µg  
 9229-100 100 µg

**ALTERNATIVE NAMES:** Procathepsin D, CTSD

**SOURCE:** *E. coli*

**FORM:** Lyophilized

**FORMULATION:** Freeze-dried from proprietary buffer

**PURITY:** ≥80% by SDS-PAGE analysis

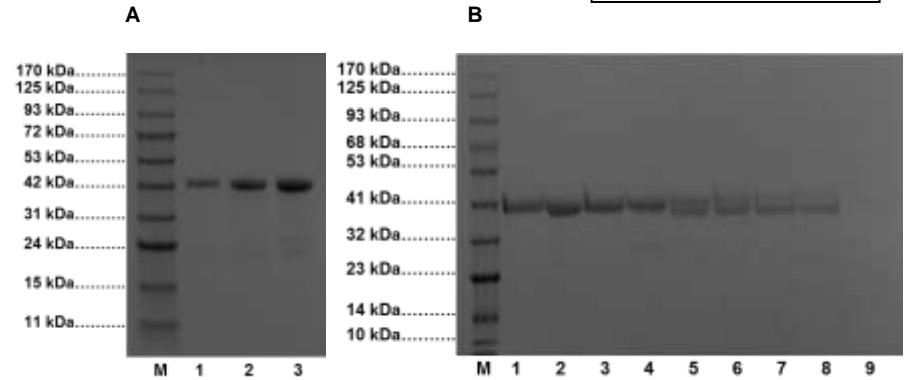
**MOL. WT.:** 45.1 kDa

**STORAGE CONDITIONS AND RECONSTITUTION:** Store at -20°C. Stable for at least 6 months as supplied. Reconstitute to 1 mg/ml in sterile water, store at -80°C in aliquots and use within 6 months after reconstitution. Avoid repeated freeze-thaw cycles.

**BACKGROUND:** Cathepsin D is a lysosomal aspartyl protease composed of a protein dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. It is an estrogen-regulated protein associated with tissue breakdown. Levels of cathepsin D have been positively correlated with recurring breast cancers of both node negative and node positive types. Additionally cathepsin D has been associated with amyloid formation in Alzheimer's plaques. Cathepsin D is produced initially as a pre-pro-enzyme which gets transported to lysosomes via endosomes in most cell types. In endosomes, it gets proteolyzed by unidentified proteases by removal of the pro-peptide to generate active single-chain Cathepsin D; while in lysosomes, further processing by cysteine cathepsins B and L generates mature, active double-chain Cathepsin D. BioVision's Active Human Cathepsin D is a proteolytically active, non-glycosylated enzyme expressed, purified and activated by proprietary methods.

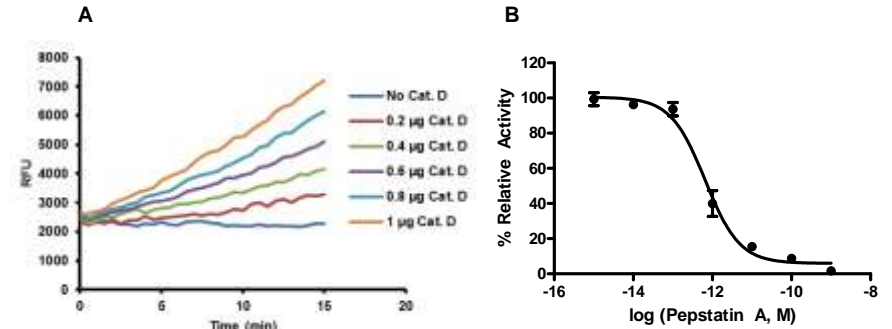
**APPLICATIONS:** Recombinant Human Active Cathepsin D can be used in the activity or inhibitor screening, substrate profiling, western blotting, ELISA, and other functional assays.

**SPECIFIC ACTIVITY:** BioVision's Active Human Cathepsin D has been tested for its proteolytic activity using Cathepsin D Activity Fluorometric Assay Kit (Catalog No. K143-100, specific activity >10,000 pmol/min/mg) and Pepstatin A inhibition using Cathepsin D inhibitor screening kit (Catalog No. K148-100, IC<sub>50</sub> = 0.7 ± 0.3 pM).



**Fig 1 A. SDS-PAGE (4-20%) of active Human Cathepsin D:**  
 M: Protein Marker  
 1: Active Cathepsin D (5 µg)  
 2: Active Cathepsin D (10 µg)  
 3: Active Cathepsin D (15 µg)

**Fig 1 B. SDS-PAGE (4-20%) analysis of cleavage reaction of Active Human Cathepsin D (200 µg) with Active Human Cathepsin L (1 µg) at 37°C:**  
 M: Protein Marker, 1: Active Cathepsin D, 2-9: Active Cathepsin D after 1, 5, 10, 30, 60, 90, 120 min and 16 h of the cleavage reaction



**Fig 2 A. Activity of Active Cathepsin D.** Activity of Cathepsin D as measured by Cathepsin D Activity Fluorometric Assay Kit (Catalog No. K143-100)

**Fig 2 B. Pepstatin A Inhibition of Cathepsin D activity.** Inhibition of Active Cathepsin D by Pepstatin A (IC<sub>50</sub> = 0.7 ± 0.3 pM) as measured by Cathepsin D Inhibitor Screening Kit (Catalog No. K148-100)

**RELATED PRODUCTS:**

- Cathepsin D Activity Fluorometric Assay Kit (Cat. No. K143-100)
- Cathepsin D Inhibitor Screening Kit (Cat. No. K148-100)
- Cathepsin B, Active, human recombinant (Cat. No. 7580-5,-50,-500)
- Cathepsin K, Active, human recombinant (Cat. No. 7600-5,-50)
- Cathepsin L, human recombinant (Cat. No. 1135-5,-100,-1000)
- Cathepsin S, Active, human recombinant (Cat. No. 7526-10,-50,-500)
- Procathepsin E/ Cathepsin E, human recombinant (Cat. No. 7842-50,-500)
- Human CellExp™ Cathepsin D, human recombinant (Cat. No. 7409-10)

