

Procathepsin K, Mouse recombinant

CATALOG #: 1027-10 10 µg
 1027-50 50 µg
 1027-1000 1 mg

SOURCE: *E. coli*

PURITY: ≥95% by SDS-PAGE

MOL. WEIGHT: 35.5 kDa (314 aa)

FORM: Liquid

FORMULATION: 2.5 mg/ml solution in 25 mM Na₂HPO₄ and 500 mM NaCl (pH 7.0).

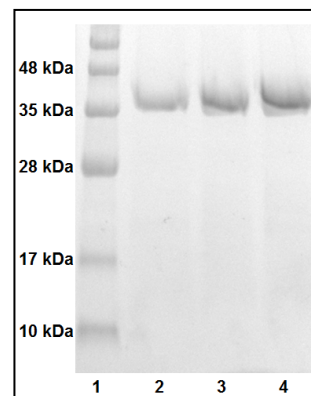
STORAGE CONDITIONS: Stable for 1 year at -80°C. It can be diluted upto 0.2 mg/ml, aliquoted and must be stored at -80°C. Avoid multiple freeze / thaw cycles as activity may decrease.

SPECIFIC ACTIVITY: The specific activity is >1000 mU/mg (1 U = 1 µmole/min/mg) as measured by Cathepsin K Activity Assay Kit (Catalog #K141-100).

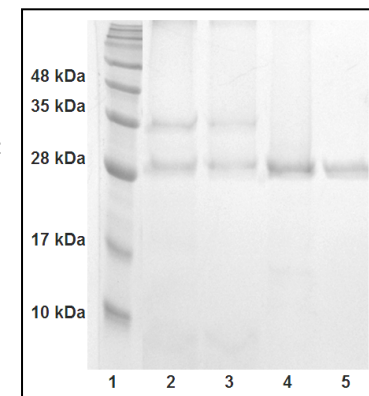
ACTIVITY ASSAY: Procathepsin K can be auto-catalytically activated by adjusting the pH to 4.0 by adding an equal volume of 0.2 M NaOAc, 5 mM EDTA pH 4 containing fresh 25 mM DTT at RT. The enzyme is fully activated within 2-3 h of incubation at RT. After activation mature Cathepsin K is highly auto-proteolytic at pH 4.0, and care must be taken to avoid self-proteolysis. If the activated enzyme is not used immediately, methyl methaniosulfonate (1 mM final concentration; MeS-SO₂Me; MMTS) could be added and sample should be frozen at -80°C. The activity can be restored by adding L-cysteine (3 M excess over MMTS) to the enzyme solution.

DESCRIPTION: Cathepsin K is a member of the papain cysteine proteinase family and has been identified as the predominant proteinase responsible for the resorption of the bone matrix. The enzyme cleaves proteins such as collagen type I, collagen type II and osteonectin and therefore plays a role in bone remodeling and resorption in diseases such as osteoporosis, osteolytic bone metastasis and rheumatoid arthritis (Bromme and Okamoto, 1995; Drake, F. et al 1996; Bossard et al, 1996). Cathepsin K is synthesized as an inactive proenzyme (35.1 kDa) that is converted to its mature active form (23.6 kDa) by proteolytic cleavage of its 99-amino-acid propeptide domain. The in-vitro processing of procathepsin K to mature cathepsin K is autocatalytic.

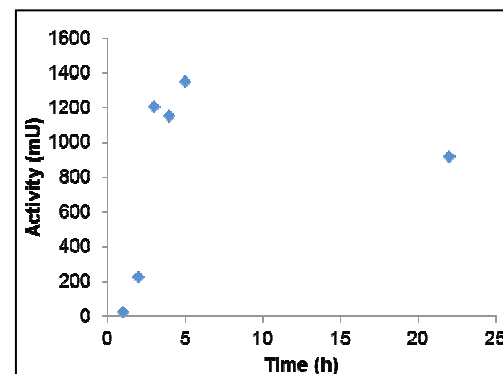
FOR RESEARCH USE ONLY! Not to be used on humans.



SDS-PAGE (17%) of purified Procathepsin K:
 1: Protein marker
 2: 10 µg of rm-Procathepsin K
 3: 15 µg of rm-Procathepsin K
 4: 20 µg of rm-Procathepsin K



SDS-PAGE (17%) of Procathepsin K activated with 10 µg DTT:
 1: Protein marker
 2: rm-Procathepsin K after 4 h of activation with DTT (10 µg)
 3: rm-Procathepsin K after 5 h of activation with DTT (10 µg)
 4: rm-Procathepsin K after 7 h of activation with DTT (10 µg)
 5: rm-Procathepsin K after 22 h of activation with DTT (10 µg)



Activation of rmProcathepsin K monitored by BioVision's Cathepsin K activity assay kit, Cat # K141-100.

RELATED PRODUCTS:

- Procathepsin K, human recombinant (Cat # 1026-10)
- Cathepsin K Antibody (Cat # 3368-100)
- Cathepsin K Activity Assay Kit (Cat # K141-100)
- Cathepsin K Antibody (Cat # 3588-100)
- Cathepsin K Blocking Peptide (Cat # 3368BP-50)

