
Product Data Sheet

Product Name: Cathepsin L from human liver

Cat. No.: GC26578

Batch No.: 1

Product Data

Purity >98% Source human liver

Physical Appearance solid Shipping Condition dry ice

Formulation Solution in in 20 mM malonate, pH 5.5, 1 mM EDTA, and 400 mM NaCl.

Introduction

The cathepsin L (CTSL) gene is mapped to human chromosome 9q21.33. It encodes a lysosomal cysteine proteinase that belongs to the peptidase C1 family. The enzyme is a dimer of a heavy (175 amino acids) and a light chain (42 amino acids) linked by disulfide bonds. Cathepsin L (CTSL) exhibits endopeptidase activity and breaks peptide bonds with aromatic residues. This enzyme is functional at pH 3.0–6.5 with thiol compounds. Elastin, collagen, and α -1 protease inhibitors act as substrates for cathepsin L (CTSL). CTSL cleaves several proteins including enzymes, receptors, and transcription factors. It is involved in antigenic peptide production and controls B-cells homeostasis. It is associated with myofibril necrosis and tumor progression. Increased expression of CTSL promotes metastasis and relates to poor prognosis in cancer patients. Increased expression of CTSL is observed in breast cancer. CTSL is implicated in glioblastoma multiforme (GBM), middle east respiratory syndrome (MERS), gingival overgrowth, and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It has a higher specific activity than cathepsin B and H in the degradation of a variety of physiological protein substrates.

Biological Activity

≥ 0.5 units/mg protein

Stability

One unit will hydrolyze 1.0 μ mole of Z-Phe-Arg-AFC per minute at pH 5.5 at 25 °C.

Background

Caution: Product has not been fully validated for medical applications. For research use only.

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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