

Product Specification Sheet

Substrate for /MMP7 Protein (Azocoll substrate)

Cat. # AZCL11-N

Substrate for matrilysin/MMP7 (matrix metalloproteinase 7) (Azocoll substrate) **SIZE:** 500 mg

Defensins are a large family of broad-spectrum antimicrobial peptides, identified originally in leukocytes of rabbits and humans. The genes encoding human α and β -defensins are clustered in a contiguous segment of chromosome 8p23. Defensins are initially synthesized as inactive prodefensins with a signal peptide that is cleaved off by **Matrilysin/MMP7** (a tissue metalloproteinase) to generate mature and bioactive defensin peptide. Matrilysin is expressed in Paneth cell granules together with perhaps more than 20 different α -defensins (cryptidins). Disruption of the matrilysin gene prevents the normal posttranslational proteolytic activation of intestinal α -prodefensins.

Matrix metalloproteinase-7 (MMP-7) also known as matrilysin and PUMP (EC 3.4.24.23) cleaves a number of substrates including collagen types IV and X, elastin, fibronectin, gelatin, laminin and proteoglycans. MMP-7 is closely related to the stromelysin family members but is encoded by a different gene. MMP-7 is the smallest of all the MMPs consisting of a pro-peptide domain and a catalytic domain. It lacks the hemopexin-like domain common to other members of the MMPs. MMP-7 is secreted as a 28 kDa proenzyme and can be activated in vitro by organomercurials and trypsin and in vivo by MMP-3 to a 18 kDa active MMP-7 enzyme. Once activated, MMP-7 can activate pro-MMP-1 and pro-MMP-9 but not pro-MMP-2. MMP-7 is widely expressed having been reported in elevated levels in cycling endometrium as well as in colorectal cancers and adenomas, hepatocellular carcinomas, rectal carcinomas, and approximately 50% of gliomas.

Source of Antigen, Antibodies, and Storage

Azocoll substrate is General proteolytic substrate. Smaller particle size provides a rapid, simple method for quantitative determination of protease content in aqueous solutions. Color yield (520 nm): >1.0; blank (520 nm, 5 mg/ml buffer, 10 min at 37°C, pH 7.0): <0.3. Mesh: >100 (minimum 80%).

Store in a dark and dry place at room temperature.

Biological activity

Specific activity of this preparation is ~3000 units/mg (one unit is defined as the amount of enzyme *One unit is defined as the amount of enzyme that will digest 1.0 μ g AZOCOLL Substrate) per min at 37°C, pH 7.5. EC 3.4.24.23.*

Form & Storage of Antibodies/Peptide Control

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting load 100-500 ng/lane and probe with ADI #MMP71-M or other antibodies.

ELISA: Control protein can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

General References: (1) Poilane I (1998) Can J. Biochem. 44, 157; Braganza VJ (1991) Biochem. 30, 4997; Harder et al (1997) Nature 387, 861; Ganz T (1999) Science 286, 420; Yang D et al (1999) Science 286, 525; Wilson CL et al (1999) Science 286, 113-117; Cottman DW et al (1993) Intl J. Oncol. 2, 861-872; Wossner JF et al (1995) Methods Enzymol. 248, 485-495; Imai K et al (1995) J. Biol. Chem. 269, 2032-2040; Brunner KL et al (1995) Proc. Natl. Acad. Sci. 92, 7362-7366

*This product is for In vitro research use only.

Related material available from ADI

Antibodies alpha and beta-defensins and MMP7

Recombinant human MMP-7 protein

Recycle blots in Just 5-10 min. (use the same strip for various proteins) New formulation will strip antibodies in just a few minutes at room temp. (no boiling or pungent mercaptoethanol).

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