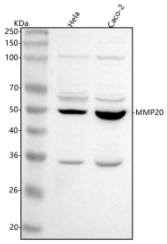
MMP20 Antibody / Matrix metalloproteinase 20 (FY13191)

Catalog No.	Formulation	Size
FY13191	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O60882
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This MMP20 antibody is available for research use only.



Western blot analysis of MMP20 using anti-MMP20 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human Caco-2 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MMP20 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot detection of MMP20 shows a predominant band just below the 50 kDa marker, consistent with a processed form of the ~54 kDa zymogen, plus additional species at ~35 kDa, ~60 kDa, and ~105 kDa that likely reflect autolytic fragments, variably glycosylated intermediates, and higher-order complexes, respectively.

Description

MMP20 antibody detects Matrix metalloproteinase-20, an extracellular endopeptidase that degrades enamel matrix proteins during tooth development. The UniProt recommended name is Matrix metalloproteinase-20 (MMP20). Also known as enamelysin, this enzyme belongs to the matrix metalloproteinase family responsible for remodeling extracellular

matrix components during morphogenesis and tissue repair.

Functionally, MMP20 antibody identifies a 483-amino-acid secreted zinc-dependent protease synthesized as a zymogen that is activated by propeptide cleavage. MMP20 is specifically expressed in ameloblasts and odontoblasts, where it cleaves amelogenin, ameloblastin, and enamelin to enable proper enamel mineralization and organization.

The MMP20 gene is located on chromosome 11q22.2 and exhibits tissue-specific expression limited primarily to developing teeth. Its enzymatic activity contributes to normal enamel formation and maturation during odontogenesis.

Pathologically, mutations in MMP20 cause autosomal recessive amelogenesis imperfecta, a disorder characterized by defective enamel formation and tooth fragility. Altered MMP20 expression has also been implicated in oral cancer and tissue invasion. Research using MMP20 antibody supports studies in dental biology, extracellular matrix remodeling, and developmental biochemistry.

MMP20 antibody is validated for western blotting, immunohistochemistry, and ELISA to detect matrix-degrading enzymes. NSJ Bioreagents provides MMP20 antibody reagents optimized for dental development, tissue remodeling, and protease regulation research.

Structurally, Matrix metalloproteinase-20 features a catalytic zinc-binding domain and a hemopexin-like domain responsible for substrate recognition. This antibody enables investigation of MMP20's function in enamel formation and extracellular matrix turnover.

Application Notes

Optimal dilution of the MMP20 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MMP20 recombinant protein (Position: Y124-K405) was used as the immunogen for the MMP20 antibody.

Storage

After reconstitution, the MMP20 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.