

Product datasheet

Recombinant human MMP14 protein ab168081

Overview

Product name	Recombinant human MMP14 protein
Protein length	Protein fragment

Description

Nature	Recombinant
Source	Escherichia coli
Amino Acid Sequence	
Accession	P50281
Species	Human
Sequence	MSPAPRPPRCLLLPLLLTALASLGSAQSSSFSPA WLQYGYLPPGDL RHTQRSPQSLSAIAAMQKFYGLQVTGKADADTMKA MRRPRCGVPDKFG AEIKANVRRKRYAIQGLKWHNEITFCIQNYTPKVGEYA TYAIRKAFRV WESATPLRFREVPYAYIREGHEKQADIMIFFAEGFHGD STPFDGEGGFLA HAYFPGPNIGGDTHFDSAEPWTVRNEIDLNGNDIFLVA VHELGHALGLEHS SDPSAIMAPFYQWMD
Molecular weight	31 kDa including tags
Amino acids	1 to 265
Tags	His tag C-Terminus

Specifications

Our [Abpromise guarantee](#) covers the use of **ab168081** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Biological activity	Specific Activity = =60mU/mg protein after trypsin activation. One unit is defined as the amount of enzyme that hydrolyzes 1µmol Mca-Pro-Leu-Gly-Leu-Dpa-Ala-Arg-NH ₂ per min. at 37°C, pH 7.5.
Applications	Functional Studies SDS-PAGE
Purity	>90% by SDS-PAGE.

Form	Liquid
Additional notes	<p>Activation: An aliquot of 5µg MMP14 proenzyme is mixed with 1µl trypsin solution in 100µl activation buffer and incubated for 12 min. at 25°C. Thereafter trypsin is inhibited by addition of 1µl aprotinin solution.</p> <p>Activation buffer: 50mM TRIS-HCl, pH 7.5, 150mM NaCl, 5mM CaCl₂. Store at -20°C.</p> <p>Trypsin solution: 50µg TPCK-trypsin per ml activation buffer. Store in aliquots at -20°C.</p> <p>Aprotinin solution: 1mg aprotinin per ml activation buffer. Store at -20°C.</p>

Preparation and Storage

Stability and Storage	<p>Shipped at 4°C. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.</p> <p>pH: 7.50</p> <p>Constituents: 0.06% Calcium chloride, 0.79% Tris HCl, 0.88% Sodium chloride</p> <p>This product is an active protein and may elicit a biological response in vivo, handle with caution.</p>
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General Info

Function	Seems to specifically activate progelatinase A. May thus trigger invasion by tumor cells by activating progelatinase A on the tumor cell surface. May be involved in actin cytoskeleton reorganization by cleaving PTK7.
Tissue specificity	Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.
Sequence similarities	Belongs to the peptidase M10A family. Contains 4 hemopexin-like domains.
Domain	The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.
Post-translational modifications	The precursor is cleaved by a furin endopeptidase.
Cellular localization	Membrane. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

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