Datasheet for ABIN625212

MMP8 ELISA Kit

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Overview

Quantity:	96 tests
Target:	MMP8
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	50 pg/mL-40 ng/mL
Minimum Detection Limit:	50 pg/mL
Application:	ELISA

Product Details

Purpose:	Rat MMP-8 ELISA Kit for cell culture supernatants, heparin treated plasma, and serum samples. EDTA and Citrate are not recommended.
Sample Type:	Plasma, Cell Culture Supernatant, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This ELISA kit shows no cross-reactivity with the following cytokines tested: rat CINC-2, CINC-3, CNTF, Fractalkine, IL-1 alpha, IL-1 beta, IL-4, IL-6, IL-10, GM-CSF, IFN-gamma, Leptin, Lix, MCP-1, MIP-3 alpha, beta- NGF, TIMP-1, TNF-alpha.
Sensitivity:	50 pg/mL
Characteristics:	• Strip plates and additional reagents allow for use in multiple experiments • Quantitative protein detection • Establishes normal range

Product Details

	• The best products for confirmation of antibody array data
Components:	• Pre-Coated 96-well Strip Microplate • Wash Buffer • Stop Solution • Assay Diluent(s) • Lyophilized Standard • Biotinylated Detection Antibody • Streptavidin-Conjugated HRP • TMB One-Step Substrate
Material not included:	• Distilled or deionized water • Precision pipettes to deliver 2 µL to 1 µL volumes • Adjustable 1-25 µL pipettes for reagent preparation • 100 µL and 1 liter graduated cylinders • Tubes to prepare standard and sample dilutions • Absorbent paper • Microplate reader capable of measuring absorbance at 450nm • Log-log graph paper or computer and software for ELISA data analysis

Target Details

Target:	MMP8
Alternative Name:	MMP-8 (MMP8 Products)
Background:	Neutrophil collagenase (EC 3.4.24.34) (Matrix metalloproteinase-8) (MMP-8)
Gene ID:	63849
UniProt:	O88766

Application Details

Application Notes:	Recommended Dilution for serum and plasma samples100 fold
Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	1. Prepare all reagents, samples and standards as instructed in the manual. 2. Add 100 µL of standard or sample to each well. 3. Incubate 2.5 h at RT or O/N at 4 °C. 4. Add 100 µL of prepared biotin antibody to each well. 5. Incubate 1 h at RT.

6. Add 100 µL of prepared Streptavidin solution to each well.
7. Incubate 45 min at RT.
8. Add 100 µL of TMB One-Step Substrate Reagent to each well.
9. Incubate 30 min at RT.
10. Add 50 µL of Stop Solution to each well.
11. Read at 450 nm immediately.

Reagent Preparation:

1. Bring all reagents and samples to room temperature (18 - 25 °C) before use.

2. Sample dilution: If your samples need to be diluted, Assay Diluent A (Item D) should be used for dilution of serum/plasma samples. 1x Assay Diluent B should be used for dilution of cell culture supernates/urine. Suggested dilution for normal serum/plasma: 40-400 fold*. * Please note that levels of the target protein may vary between different specimens. Optimal dilution factors for each sample must be determined by the investigator.

3. Assay Diluent B should be diluted 5-fold with deionized or distilled water before use.

4. Preparation of standard: Briefly spin the vial of Item C and then add 400 µL Assay Diluent A (for serum/plasma samples) or 1x Assay Diluent B (for cell culture supernates/urine) into Item C vial to prepare a 200 ng/mL standard. Dissolve the powder thoroughly by a gentle mix. Add 100 µL MMP-8 standard (200 ng/mL) from the vial of Item C, into a tube with 400 µL Assay Diluent A or 1x Assay Diluent B to prepare a 40 ng/mL stock standard solution. Pipette 400 µL Assay Diluent A or 1x Assay Diluent B into each tube. Use the stock standard solution to produce a dilution series . Mix each tube thoroughly before the next transfer. Assay Diluent A or 1x Assay Diluent B serves as the zero standard (0 ng/mL). 200 µL 100 µL standard + 400 µL 200myl 200 µL 200 µL 200 µL 200 µL 40 13.3 4.44 1.48 0.49 0.16 0.05 0 ng/mL ng/mL ng/mL ng/mL ng/mL ng/mL ng/mL ng/mL

5. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 ml of Wash Buffer Concentrate into deionized or distilled water to yield 400 ml of 1x Wash Buffer.

6. Briefly spin the Detection Antibody vial (Item F) before use. Add 100 µL of 1x Assay Diluent B into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4 °C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1x Assay Diluent B and used in step 4 of Part VI Assay Procedure.

7. Briefly spin the HRP-Streptavidin concentrate vial (Item G) and pipette up and down to mix gently before use. HRP-Streptavidin concentrate should be diluted 160-fold with 1x Assay Diluent B. For example: Briefly spin the vial (Item G) and pipette up and down to mix gently . Add 75 µL of HRP-Streptavidin concentrate into a tube with 12 ml 1x Assay Diluent B to prepare a 160-fold diluted HRP- Streptavidin solution (don't store the diluted solution for next day use). Mix well.

Application Details

Assay Procedure:	1. Bring all reagents and samples to room temperature (18 - 25 °C) before use. It is recommended that all standards and samples be run at least in duplicate. 2. Add 100 µL of each standard (see Reagent Preparation step 2) and sample into appropriate wells. Cover well and incubate for 2.5 hours at room temperature or over night at 4 °C with gentle shaking. 3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 myl) using a multi-channel Pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels. 4. Add 100 µL of 1x prepared biotinylated antibody (Reagent Preparation step 6) to each well. Incubate for 1 hour at room temperature with gentle shaking. 5. Discard the solution. Repeat the wash as in step 6. Add 100 µL of prepared Streptavidin solution (see Reagent Preparation step 7) to each well. Incubate for 45 minutes at room temperature with gentle shaking. 7. Discard the solution. Repeat the wash as in step 8. Add 100 µL of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking. 9. Add 50 µL of Stop Solution (Item I) to each well. Read at 450 nm immediately.
Calculation of Results:	Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points. Typical Data: These standard curves are for demonstration only. A standard curve must be run with each assay. Assay Buffer A Rat MMP-8 concentration (ng/mL) 0.01 0.1 1 10 100 O D =4 50 (n m) 0.01 0.1 1 10 Assay Buffer B Rat MMP-8 concentration (ng/mL) 0.01 0.1 1 10 100 O D =4 50 (n m) 0.01 0.1 1 10 Sensitivity: The minimum detectable dose of MMP-8 is typically less than 50 pg/mL. Recovery: Recovery was determined by spiking various levels of Rat MMP-8 into serum, plasma and cell culture media. Mean recoveries are as follows: Sample Type Average % Recovery Range (%) Serum 109.78 99-118 Plasma 107.6 98-118 Cell culture media 95.42 83-108 Linearity: Sample Type Serum Plasma Cell Culture Media 1:2 Average % of Expected 113 111 102 Range (%) 101-123 99-120 91-112 1:4 Average % of Expected 115 115 104 Range (%) 102-123 101-123 91-113 Reproducibility: Intra-Assay: CV<10 % Inter-Assay: CV<12 %
Assay Precision:	Intra-Assay: CV< 10 % Inter-Assay: CV< 12 %

Application Details

Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-20 °C
Storage Comment:	The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C.
Expiry Date:	6 months

Publications

Product cited in:	Aral, Kesim, Greenwell, Kara, Çetin, Yakan: "Alveolar bone protective and hypoglycemic effects of systemic propolis treatment in experimental periodontitis and diabetes mellitus." in: **Journal of medicinal food**, Vol. 18, Issue 2, pp. 195-201, (2015) (PubMed). Krarup, Eld, Heinemeier, Jorgensen, Hansen, gren: "Expression and inhibition of matrix metalloproteinase (MMP)-8, MMP-9 and MMP-12 in early colonic anastomotic repair." in: **International journal of colorectal disease**, Vol. 28, Issue 8, pp. 1151-9, (2013) (PubMed). Danielsen, Holst, Maltesen, Bassi, Holst, Heinemeier, Olsen, Danielsen, Poulsen, Jorgensen, Agren: "Matrix metalloproteinase-8 overexpression prevents proper tissue repair." in: **Surgery**, Vol. 150, Issue 5, pp. 897-906, (2011) (PubMed).

ELISA

Image 1.