

Human α_2 -Macroglobulin

Catalog Number: 1938-PI

Human plasma defined The human plasma used for the isolation of this product was certified by the supplier to be HIV-1 and HBsAg negative at the time of shipment. Human blood products should always be treated in accordance with universal handling precautions. Naterinial Sequence	DESCRIPTION	
Structure Form Disulfide-linked homo-oligomer	Source	The human plasma used for the isolation of this product was certified by the supplier to be HIV-1 and HBsAg negative at the time of
SPECIFICATIONS SDS-PAGE 90-170 kDa, reducing conditions Measured by its ability to trip trypsin. The trapped trypsin is no longer able to interact with protein substrates or inhibitors, but still able to cleave armal peptide substrates or inhibitors. Human ac2-Macroglobulin has an IC ₅₀ value of <5 nM, as measured under the described conditions. Endotoxin Level 1.0 EU per 1 gp of the protein by the LAL method. Purity 900%, by SDS-PAGE visualized with Silver Statining and quantitative densitometry by Coomassie® Blue Staining. Formulation Supplied as a 0.2 jm filtered solution in NaH ₂ PO ₂ , NaCl and Glycerol. See Certificate of Analysis for details. Activity Assay Protect Materials • Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.5% (ww) Birj.35, pH 7.5 (TCNB) • Human ac_Macroglobulin (the, Macroglobulin) (Catalog # 1938-PI) • Recombinant Human Active Trypsin 3 (PRESS) (InTopina 3) (Catalog # 3744-SE) • Substrate: MCA-Arg-Pro-Lys-Pro-Val-Glu-MVAL-Try-Arg-Lys-(DNP)-NH ₂ (Catalog # 82002) • Fito Black Massiver Plate Reader (Model: SpectraMax Gemini EM by Molecular Devices) or equivalent Assay 1. Dilute htrypsin 3 to 1.28 lg/mL. with Assay Buffer. Dilute ha ₂ -Macroglobulin (NW: 720000 Da) to the following concentrations: 200 nM, 100 nM, 50 nM, 25 nM, 125 nM, 8.25 nM, 3.15 nM, and 0.3125 nM. 3. Combine 30 µL of ha ₂ -Macroglobulin curve with 30 µL of 125 gp/mL. httpspina 3. Include a control containing 30 µL of Assay Buffer with 30 µL of 17 years a Greater with 30 µL of 17 years and surface of the spring 72 of 40 µg/mL rifspein 72 to each reaction. 1. Incubate at 37" Cof 17 hour. 5. Dilute hap-Macroglobulin curve with 30 µL of 125 gp/mL. httpspina 3, include a control containing 30 µL of Assay Buffer. 6. Add 60 µL of 40 µg/mL rifsepin 72 to death reaction. 7. Incubate at 37" Cof 18 hours. 8. Dilute substrate to each wall. 10. Read at excitation and semisation wavelengths of 320 nm and 405 nm (top read), respectively, in kinetic mode for 5 minutes. 11. Derive the S0% inhibiting		Ser24
SDS-PAGE 90-170 kDa, reducing conditions Activity Measured by its ability to trap trypsin. The trapped trypsin is no longer abile to interact with protein substrates or inhibitors, but still able to cleave small peptide substrates or inhibitors. Endotoxin Level < 1.0 EU protein by the LAL method. Purity > 90%, by SDS-PAGE visualized with Silver Stalning and quantitative densitometry by Coomassie® Blue Staining. Formulation Supplied as a 0.2 µm filtered solution in NaH_PO_4, NaCl and Glycerol. See Certificate of Analysis for details. **Activity Assay Protocol** Materials **Activity Assay Protocol** Materials **Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) **Human a_Macroglobulin (hc_3Macroglobulin) (Catalog # 1938-PI) **Recombinant Human a-Patip Patipsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 19502) **File Black Maxisorp Plate (Nunc, Catalog # 475515) **Fluorescent Plate Reader (Model: Speciathus Gemini EM by Molecular Devices) or equivalent **Assay** 1. Dilute rhTrypsin 3 to 1.28 µg/mL with Assay Buffer. 2. Prepare a curve of ho ₃ -Macroglobulin with Assay Buffer. 2. Prepare a curve of ho ₃ -Macroglobulin with Assay Buffer. 2. Onnohine 30 µL of ha ₃ -Macroglobulin with Assay Buffer. 3. Combine 30 µL of ha ₃ -Macroglobulin and 30 µL Assay Buffer. 4. Incubate at 37 ° Cor of hour. 5. Dilute rhSerpin F2 to 40 µg/mL with Assay Buffer. 6. Add 60 µL of 40 µg/mL with Assay Buffer. 9. Dilute substrate to 20 µg/mL with Assay Buffer. 10. Read at excitation and emission wavelengths of 320 m and 405 nm (top read), respectively, in kinetic mode for 5 minutes. 11. Derive Bushtrate to 20 µg/mL with Assay Buffer. 12. The specific activity from firm pring at a seach point may be determined using the following formula (if needed): **P	Structure / Form	Disulfide-linked homo-oligomer
SDS-PAGE 90-170 kDa, reducing conditions Activity Measured by its ability to trap trypsin. The trapped trypsin is no longer abile to interact with protein substrates or inhibitors, but still able to cleave small peptide substrates or inhibitors. Endotoxin Level < 1.0 EU protein by the LAL method. Purity > 90%, by SDS-PAGE visualized with Silver Stalning and quantitative densitometry by Coomassie® Blue Staining. Formulation Supplied as a 0.2 µm filtered solution in NaH_PO_4, NaCl and Glycerol. See Certificate of Analysis for details. **Activity Assay Protocol** Materials **Activity Assay Protocol** Materials **Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) **Human a_Macroglobulin (hc_3Macroglobulin) (Catalog # 1938-PI) **Recombinant Human a-Patip Patipsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 1938-PI) **Recombinant Human a-Retive Trypsin 3/PRSS3 (InTypsin 3) (Catalog # 19502) **File Black Maxisorp Plate (Nunc, Catalog # 475515) **Fluorescent Plate Reader (Model: Speciathus Gemini EM by Molecular Devices) or equivalent **Assay** 1. Dilute rhTrypsin 3 to 1.28 µg/mL with Assay Buffer. 2. Prepare a curve of ho ₃ -Macroglobulin with Assay Buffer. 2. Prepare a curve of ho ₃ -Macroglobulin with Assay Buffer. 2. Onnohine 30 µL of ha ₃ -Macroglobulin with Assay Buffer. 3. Combine 30 µL of ha ₃ -Macroglobulin and 30 µL Assay Buffer. 4. Incubate at 37 ° Cor of hour. 5. Dilute rhSerpin F2 to 40 µg/mL with Assay Buffer. 6. Add 60 µL of 40 µg/mL with Assay Buffer. 9. Dilute substrate to 20 µg/mL with Assay Buffer. 10. Read at excitation and emission wavelengths of 320 m and 405 nm (top read), respectively, in kinetic mode for 5 minutes. 11. Derive Bushtrate to 20 µg/mL with Assay Buffer. 12. The specific activity from firm pring at a seach point may be determined using the following formula (if needed): **P	SPECIFICATIONS	
Cleave small peptide substrates or inhibitors.		90-170 kDa, reducing conditions
Purity >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining. Formulation Supplied as a 0.2 µm filtered solution in NaH ₂ PO ₂ , NaCl and Glycerol. See Certificate of Analysis for details. Activity Assay Protocol Materials • Assay Buffer: 80 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) • Human a ₂ -Macroglobulin (ho ₂ -Macroglobulin) (Catalog # 1938-PI) • Recombinant Human Serpin F2 (fiSerpin F2) (Catalog # 1470-PI) • Recombinant Human Active Trypsin 3 (Pryssin 3) (Catalog # 3714-PE) • Substrate: MCA-Rg-Pro-Lys-Pro-Val-Glu-NVAL-Trp-Arg-Lys (DNP)-NH ₂ (Catalog # 3714-SE) • Substrate: MCA-Rg-Pro-Lys-Pro-Val-Glu-NVAL-Trp-Arg-Lys (DNP)-NH ₂ (Catalog # 3714-SE) • Filtorescent Plate Reader (Model: SpectraMax Gemini EM by Molecular Devices) or equivalent Assay 1. Dilute rhTrypsin 3 to 1.28 µgmL, with Assay Buffer. 2. Prepare a curve of ha ₂ -Macroglobulin with Assay Buffer: Dilute ha ₂ -Macroglobulin (MW: 720000 Da) to the following concentrations: 200 mM, 100 nM, 50 nM, 25 nM, 12.5 nM, 6.25 nM, 3.125 nM, and 0.3125 nM. 3. Combine 30 µL of hay-Macroglobulin curve with 30 µL of 1.28 µgmL https://dx.dir.ptpsin 3. Include a control containing 30 µL of 200 mM ho ₂ -Macroglobulin and 30 µL of 1.28 µgmL https://dx.dir.ptpsin 3.1 include a control containing 30 µL of 200 mM ho ₂ -Macroglobulin and 30 µL of 200 mM ho ₂ -Macroglobulin and sol, Massay Buffer. 4. Incubate at 37 °C for 1 hour. 5. Dilute hrSepin F2 to 40 µg/mL with Assay Buffer. 6. Add 60 µL of 40 µg/mL higherin F2 to each reaction. 7. Incubate at 37 °C for 15 minutes. 8. Dilute Substrate to 20 µM in Assay Buffer. 9. Load into plate 50 µL of ha ₂ -Macroglobulin and 405 nm (top read), respectively, in kinetic mode for 5 minutes. 11. Derive the 50% inhibiting concentration (G ₂ 0) of h ₂ -Macroglobulin, which the proper (public plant) in the proper (public plant)	Activity	Measured by its ability to trap trypsin. The trapped trypsin is no longer able to interact with protein substrates or inhibitors, but still able to cleave small peptide substrates or inhibitors.
Supplied as a 0.2 μm filtered solution in NaH ₂ PO ₄ , NaCl and Glycerol. See Certificate of Analysis for details.	Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Activity Assay Protocol Materials Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) Human α ₂ -Macroglobulin (hα ₂ -Macroglobulin) (Catalog # 1938-PI) Recombinant Human Serpin E2 (KnSerpin F2) (Catalog # 1470-PI) Recombinant Human Serpin E2 (KnSerpin F2) (Catalog # 1470-PI) Recombinant Human Active Trypsin 3/PRS83 (mTrypsin 3) (Catalog # 85002) Fit Black Maxisorp Plate (Nunc, Catalog # 475155) Fluorescent Plate Reader (Model: SpectraMax Gemini Elb by Molecular Devices) or equivalent Assay 1. Dilute rhTrypsin 3 to 1.28 μg/mL with Assay Buffer. 2. Prepare a curve of hα ₂ -Macroglobulin with Assay Buffer. 2. Prepare a curve of hα ₂ -Macroglobulin with Assay Buffer. 3. Combine 30 μ L of hα ₂ -Macroglobulin curve with 30 μ L of 1.28 μg/mL htrypsin 3. Include a control containing 30 μL of Assay Buffer with 30 μ L of rhTrypsin 3 in duplicate. Also include a hα ₂ -Macroglobulin control in duplicate for each sample tested containing 30 μL of 200 mM hα ₂ -Macroglobulin and 30 μ L Assay Buffer. 4. Incubate at 37 °C for 1 hour. 5. Dilute rhSerpin P2 to 40 μg/mL with Assay Buffer. 6. Add 60 μ L of 40 μg/mL mSerpin P2 to each reaction. 7. Incubate at 37 °C for 15 minutes. 8. Dilute Substrate to 20 μM in Assay Buffer. 9. Load into plate 50 μL of hα ₂ -Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 μL of 20 μM Substrate to 20 μM in Assay Buffer. 9. Load into plate 50 μL of hα ₂ -Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 μL of 20 μM Substrate to 20 μM in Assay Buffer. 9. Load into plate 50 μL of hα ₂ -Macroglobulin curve containing rhTrypsin 3, toward rhSerpin F2 activity by plotting RFU/min (or specific activity) vs. concentration (hα ₂ -Macroglobulin, by its trapping of rhTrypsin 3, toward rhSerpin F2 activity by plotting RFU/min (or specific activity) vs. concentration (hα ₂ -Macroglobulin) with 4-PL fitting. 1. The specific activity for rhTrypsin 3 are ach point	Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
## Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) ## Human a, -Macroglobulin (hgMacroglobulin) (Catalog # 1938-P1) ## Recombinant Human Serpin F2 (MeSprin F2) (Catalog # 1470-P1) ## Recombinant Human Serpin F2 (MeSprin F2) (Catalog # 1470-P1) ## Recombinant Human Active Trypsin 3/PRS3 (httrypsin 3) (Catalog # 8714-SE) **Substrate: MCA-Ag-Pot-Vys-Pr-Val-Glu-NVAL-Try-Ag-Ity-NgDNP)-H½ (Catalog # E5002) ## F18 Black Maxisorp Plate (Nunc, Catalog # 475515) ## Fluorescent Plate Reader (Model: SpectraMax Gemini EM by Molecular Devices) or equivalent ## Assay ## Dilute rhTrypsin 3 to 1.28 µg/mL with Assay Buffer. ## 2. Prepare a curve of ho ₂ -Macroglobulin with Assay Buffer. ## 2. Prepare a curve of ho ₂ -Macroglobulin curve with 30 µL of 1.28 µg/mL in Trypsin 3. Include a control containing 30 µL of Assay Buffer with 30 µL of mTrypsin 3 in duplicate. Also include a ho ₂ -Macroglobulin control in duplicate for each sample tested containing 30 µL of 200 mM ho ₂ -Macroglobulin and by L. Assay Buffer. ## 4. Incubate at 37 "C for 1 hour. ## 5. Dilute hisepin F2 to 40 µg/mL with Assay Buffer. ## 6. Add 60 µL of 40 µg/mL mSerpin F2 to each reaction. ## 7. Incubate at 37 "C for 15 minutes. ## 8. Dilute Substrate to 20 µM in Assay Buffer. ## 8. Dilute Substrate to 20 µM in Assay Buffer. ## 9. Load into plate 50 µL of ho ₂ -Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 µL of 20 µM Substrate to each well. ## 10. Read at excitation and emission wavelengths of 320 nm and 405 nm (top read), respectively, in kinetic mode for 5 minutes. ## 10. Derive the 50% inhibiting concentration (IC ₆₀) of ho ₂ -Macroglobulin) with 4-PL fitting. ## 12. The specific activity for rhTrypsin 3 at each point may be determined using the following formula (if needed): ## Specific Activity (pmol/min/µg) = Adjusted V _{max} (RFU/min) x Conversion Factor* (pmol/RFU) ## amount of enzyme (µg) ## Adjusted for ho ₂ -Macroglobulin cortol ## 10	Formulation	Supplied as a 0.2 μm filtered solution in NaH $_2$ PO $_4$, NaCl and Glycerol. See Certificate of Analysis for details.
## Assay Buffer: 50 mM Tris, 10 mM CaCl ₂ , 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) ## Human a, -Macroglobulin (hgMacroglobulin) (Catalog # 1938-P1) ## Recombinant Human Serpin F2 (MeSprin F2) (Catalog # 1470-P1) ## Recombinant Human Serpin F2 (MeSprin F2) (Catalog # 1470-P1) ## Recombinant Human Active Trypsin 3/PRS3 (httrypsin 3) (Catalog # 8714-SE) **Substrate: MCA-Ag-Pot-Vys-Pr-Val-Glu-NVAL-Try-Ag-Ity-NgDNP)-H½ (Catalog # E5002) ## F18 Black Maxisorp Plate (Nunc, Catalog # 475515) ## Fluorescent Plate Reader (Model: SpectraMax Gemini EM by Molecular Devices) or equivalent ## Assay ## Dilute rhTrypsin 3 to 1.28 µg/mL with Assay Buffer. ## 2. Prepare a curve of ho ₂ -Macroglobulin with Assay Buffer. ## 2. Prepare a curve of ho ₂ -Macroglobulin curve with 30 µL of 1.28 µg/mL in Trypsin 3. Include a control containing 30 µL of Assay Buffer with 30 µL of mTrypsin 3 in duplicate. Also include a ho ₂ -Macroglobulin control in duplicate for each sample tested containing 30 µL of 200 mM ho ₂ -Macroglobulin and by L. Assay Buffer. ## 4. Incubate at 37 "C for 1 hour. ## 5. Dilute hisepin F2 to 40 µg/mL with Assay Buffer. ## 6. Add 60 µL of 40 µg/mL mSerpin F2 to each reaction. ## 7. Incubate at 37 "C for 15 minutes. ## 8. Dilute Substrate to 20 µM in Assay Buffer. ## 8. Dilute Substrate to 20 µM in Assay Buffer. ## 9. Load into plate 50 µL of ho ₂ -Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 µL of 20 µM Substrate to each well. ## 10. Read at excitation and emission wavelengths of 320 nm and 405 nm (top read), respectively, in kinetic mode for 5 minutes. ## 10. Derive the 50% inhibiting concentration (IC ₆₀) of ho ₂ -Macroglobulin) with 4-PL fitting. ## 12. The specific activity for rhTrypsin 3 at each point may be determined using the following formula (if needed): ## Specific Activity (pmol/min/µg) = Adjusted V _{max} (RFU/min) x Conversion Factor* (pmol/RFU) ## amount of enzyme (µg) ## Adjusted for ho ₂ -Macroglobulin cortol ## 10	Activity Assay Protoco	
2. Prepare a curve of ho ₂ -Macroglobulin with Assay Buffer. Dilute ho ₂ -Macroglobulin (MW: 720000 Da) to the following concentrations: 200 nM, 100 nM, 50 nM, 25 nM, 12.5 nM, 6.25 nM, 3.125 nM, and 0.3125 nM. 3. Combine 30 μL of ho ₂ -Macroglobulin curve with 30 μL of 1.28 μg/mL nhTrypsin 3. Include a control containing 30 μL of Assay Buffer with 30 μL of nhTrypsin 3 in duplicate. Also include a ho ₂ -Macroglobulin control in duplicate for each sample tested containing 30 μL of 200 nM ho ₂ -Macroglobulin and 30 μL Assay Buffer. 4. Incubate at 37 °C for 1 hour. 5. Dilute nhSerpin F2 to 40 μg/mL with Assay Buffer. 6. Add 60 μL of 40 μg/mL rhSerpin F2 to each reaction. 7. Incubate at 37 °C for 15 minutes. 8. Dilute Substrate to 20 μM in Assay Buffer. 9. Load into plate 50 μL of ho ₂ -Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 μL of 20 μM Substrate to each well. 10. Read at excitation and emission wavelengths of 320 nm and 405 nm (top read), respectively, in kinetic mode for 5 minutes. 11. Derive the 50% inhibiting concentration (Io ₂ -Macroglobulin, by its trapping of rhTrypsin 3, toward rhSerpin F2 activity by plotting RFU/min (or specific activity) vs. concentration (ho ₂ -Macroglobulin) with 4-PL fitting. 12. The specific activity for rhTrypsin 3 at each point may be determined using the following formula (if needed): Specific Activity (pmol/min/μg) = Adjusted V _{max} * (RFU/min) x Conversion Factor** (pmol/RFU) amount of enzyme (μg) *Adjusted for ho ₂ -Macroglobulin control **Derived using calibration MCA-Pro-Leu-OH (Bachem, Catalog # M-1975). Final Assay Conditions Per Well: • ho ₂ -Macroglobulin: 25, 12.5, 6.25, 3.125, 1.563, 0.781, 0.391, and 0.0391 nM • rhTrypsin 3: 0.016 μg • rhSerpin F2: 1 μg • Substrate: 10 μM	•	 Assay Buffer: 50 mM Tris, 10 mM CaCl₂, 150 mM NaCl, 0.05% (w/v) Brij-35, pH 7.5 (TCNB) Human α₂-Macroglobulin (hα₂-Macroglobulin) (Catalog # 1938-PI) Recombinant Human Serpin F2 (rhSerpin F2) (Catalog # 1470-PI) Recombinant Human Active Trypsin 3/PRSS3 (rhTrypsin 3) (Catalog # 3714-SE) Substrate: MCA-Arg-Pro-Lys-Pro-Val-Glu-NVAL-Trp-Arg-Lys(DNP)-NH₂ (Catalog # ES002) F16 Black Maxisorp Plate (Nunc, Catalog # 475515)
Final Assay Conditions Per Well:	Assay	 Prepare a curve of hα₂-Macroglobulin with Assay Buffer. Dilute hα₂-Macroglobulin (MW: 720000 Da) to the following concentrations: 200 nM, 100 nM, 50 nM, 25 nM, 12.5 nM, 6.25 nM, 3.125 nM, and 0.3125 nM. Combine 30 μL of hα₂-Macroglobulin curve with 30 μL of 1.28 μg/mL rhTrypsin 3. Include a control containing 30 μL of Assay Buffer with 30 μL of rhTrypsin 3 in duplicate. Also include a hα₂-Macroglobulin control in duplicate for each sample tested containing 30 μL of 200 nM hα₂-Macroglobulin and 30 μL Assay Buffer. Incubate at 37 °C for 1 hour. Dilute rhSerpin F2 to 40 μg/mL with Assay Buffer. Add 60 μL of 40 μg/mL rhSerpin F2 to each reaction. Incubate at 37 °C for 15 minutes. Dilute Substrate to 20 μM in Assay Buffer. Load into plate 50 μL of hα₂-Macroglobulin curve containing rhTrypsin 3 and rhSerpin F2, and start the reaction by adding 50 μL of 20 μM Substrate to each well. Read at excitation and emission wavelengths of 320 nm and 405 nm (top read), respectively, in kinetic mode for 5 minutes. Derive the 50% inhibiting concentration (IC₅₀) of hα₂-Macroglobulin, by its trapping of rhTrypsin 3, toward rhSerpin F2 activity by plotting RFU/min (or specific activity) vs. concentration (hα₂-Macroglobulin) with 4-PL fitting. The specific activity for rhTrypsin 3 at each point may be determined using the following formula (if needed): Specific Activity (pmol/min/μg) = Adjusted V_{max}* (RFU/min) x Conversion Factor** (pmol/RFU) amount of enzyme (μg)
Conditions • hα ₂ -Macroglobulin: 25, 12.5, 6.25, 3.125, 1.563, 0.781, 0.391, and 0.0391 nM • rhTrypsin 3: 0.016 μg • rhSerpin F2: 1 μg • Substrate: 10 μM PREPARATION AND STORAGE		**Derived using calibration MCA-Pro-Leu-OH (Bachem, Catalog # M-1975).
		 hα₂-Macroglobulin: 25, 12.5, 6.25, 3.125, 1.563, 0.781, 0.391, and 0.0391 nM rhTrypsin 3: 0.016 μg rhSerpin F2: 1 μg

Shipping The pro

The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 6 months from date of receipt, -20 to -70 °C as supplied.
- 3 months, -20 to -70 °C under sterile conditions after opening.

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Human α₂-Macroglobulin

Catalog Number: 1938-PI

BACKGROUND

Human α_2 -macroglobulin (h α 2M) is a serum glycoprotein that has sequence similarity to other members of the α 2M family including complement components C3, C4 and C5 (1). α 2M is synthesized as a polypeptide of 1474 amino acids with a signal peptide (23 residues) (2). The mature protein is a tetramer (720 kDa) of 4 identical subunits (180 kDa), which form two disulfide bond-linked dimers. As a general and irreversible protease inhibitor implicated in many processes, α 2M is able to inhibit all four classes of proteases by a unique trapping mechanism. The bait region of h α 2M (residues 690-728) contains specific cleavage sites for different proteases. The cleavage of the bait region by a protease induces a conformation change in α 2M, which then traps and forms a covalent bond with the protease. The trapped protease remains active against small peptide substrates but loses its ability to interact with large protein substrates or inhibitors.

References:

- 1. Sottrup-Jensen, L. et al. (1985) Proc. Natl. Acad. Sci. USA 82:9.
- 2. Kan, C.C. et al. (1985) Proc. Natl. Acad. Sci. USA 82:2282.

