



# Recombinant alpha 1-antitrypsin

Targets (1)

## IDENTIFICATION

### Name

Recombinant alpha 1-antitrypsin

### Accession Number

DB05481

### Type

Small Molecule

### Groups

Investigational

### Description

Alpha 1-antitrypsin is a glycoprotein primarily produced by hepatocytes, and to a lesser extent, immune system cells. Recombinant alpha 1-antitrypsin (rAAT) is produced from yeast, which unlike commercially available forms of plasma-derived AAT, eliminates the risk associated with blood-borne infectious agents and allows for a increased manufacturing. rAAT belongs to a family of structurally-related proteins classified as serine protease inhibitors or SERPINS, which are known to inhibit several proteases including trypsin, cathepsin G, thrombin, tissue kallikrein, as well as neutrophil elastase. The proteinase/antiproteinase balance is believed to be important for maintaining healthy skin. The rAAT topical gel (Dermolastin™) is indicated for patients with atopic dermatitis and psoriasis. The company has indicated that other formulations for gastroenterological and urological indications will also be developed.

### Synonyms

Recombinant alpha 1-antitrypsin

<https://www.drugbank.ca/drugs/DB05481>

**Categories**

Not Available

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**UNII**

Not Available

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**CAS number**

Not Available

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**Weight**

Not Available

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**Chemical Formula**

Not Available

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**InChI Key**

Not Available

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**InChI**

Not Available

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**IUPAC Name**

Not Available

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**SMILES**

Not Available

**PHARMACOLOGY****Indication**

Investigated for use/treatment in alpha 1 antitrypsin deficiency, atopic dermatitis, and chronic



immune system cells. Recombinant alpha 1-antitrypsin (rAAT) is produced from yeast, which unlike commercially available forms of plasma-derived AAT, eliminates the risk associated with blood-borne infectious agents and allows for a increased manufacturing. rAAT belongs to a family of structurally-related proteins classified as serine protease inhibitors or SERPINS, which are known to inhibit several proteases including trypsin, cathepsin G, thrombin, tissue kallikrein, as well as neutrophil elastase. The proteinase/antiproteinase balance is believed to be important for maintaining healthy skin.

### Mechanism of action

rAAT belongs to a family of structurally-related proteins classified as serine protease inhibitors or SERPINS, which are known to inhibit several proteases including trypsin, cathepsin G, thrombin, tissue kallikrein, as well as neutrophil elastase.

 [Alpha-1-antitrypsin](#)

Not Available

Human

### Absorption

Not Available

### Volume of distribution

Not Available

### Protein binding

Not Available

### Metabolism

Not Available

### Route of elimination

Not Available



Not Available

### Toxicity

Well tolerated in clinical trials.

### Affected organisms

Not Available

### Pathways

Not Available

### Pharmacogenomic Effects/ADRs [i](#)

Not Available

## INTERACTIONS

### Drug Interactions [i](#)

Not Available

### Food Interactions

Not Available

## REFERENCES

### General References

1. Brown WM: rAA1 (dermatological) Arriva/ProMetic. Curr Opin Mol Ther. 2006 Feb;8(1):69-75. [\[PubMed:16506528\]](#)
2. Brown WM: rAA1 (inhaled) Arriva/Hyland Immuno. Curr Opin Mol Ther. 2006 Feb;8(1):76-82. [\[PubMed:16506529\]](#)

### External Links



CLINICAL TRIALS

**Clinical Trials** ⓘ

Not Available

PHARMACOECONOMICS

**Manufacturers**

Not Available

**Packagers**

Not Available

**Dosage forms**

Not Available

**Prices**

Not Available

**Patents**

Not Available

PROPERTIES

**State**

Solid

**Experimental Properties**

Not Available

**Predicted Properties**



## SPECTRA

**Mass Spec (NIST)**

Not Available

**Spectra**

Not Available

## TAXONOMY

**Classification**

Not classified

## TARGETS

**1. Alpha-1-antitrypsin****Kind**

Protein

**Organism**

Human

**Pharmacological action**

Unknown

**General Function**

Serine-type endopeptidase inhibitor activity

**Specific Function**

Inhibitor of serine proteases. Its primary target is elastase, but it also has a moderate



SERPINAT

**Uniprot ID**

P01009

**Uniprot Name**

Alpha-1-antitrypsin

**Molecular Weight**

46736.195 Da

Drug created on November 18, 2007 11:25 / Updated on October 01, 2018 14:01

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