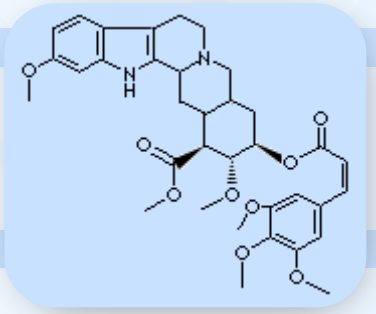
RESCINNAMINE

SYNONYMS

11,17alpha-Dimethoxy-18beta-((1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propenyl)oxy)-3beta,20alpha-yohimban-16beta-carboxylic acid methyl ester; 3,4,5-Trimethoxycinnamic acid, methyl reserpate; 3,4,5-Trimethoxycinnamoyl methyl reserpate; 3,4,5-Trimethylcinnamoyl methyl reserpate; Anaprel; Apolon; Apoterin; Cartric; Cinamine; Cinatabs; Cinnaloid; Cinnasil; Methyl 18-O-(3,4,5-trimethoxycinnamoyl) reserpate; Methyl 1alpha,2beta,3alpha,4,4aalpha,5,7,8,13,13bbeta,14,14aalpha-dodecahydro-2alpha,11-dimethoxy-3beta-(3,4,5-trimethoxycinnamoyloxy)benz(g)indolo(2,3-a)quinolizine-1beta-carboxylate; Methyl reserpate 3,4,5-trimethoxycinnamic acid ester; Moderil; Normorescina; Paresinan; Raupyrol; Raurescin; Raurescine; Methyl trimethoxycinnamoylreserpate; Recinnamine; Recitensina; Rescaloid; Rescamin; Rescinamina; Rescinnamin; Rescinnamina; Rescinnamine; Rescinnaminum; Rescinpal; Rescisan; Rescitens; Resealoid; Resepinine; Reserpinene; Reserpinin; Reserpinine; Reserpinine; Resipal; Reskinnamin; Rozex; Scinnamina; Tenamine; Trimethoxy cinnamoyl reserpate de methyl; Trimethoxycinnamoyl methyl reserpate; Methyl 18beta-hydroxy-11,17alpha-dimethoxy-3beta,20alpha-yohimban-16beta-carboxylate;



PRODUCT IDENTIFICATION

CAS RN	24815-24-5
EINECS RN	246-471-8
FORMULA	$C_{35}H_{42}N_2O_9$
MOL WEIGHT	634.72

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	white to off-white crystalline powder
MELTING POINT	234 - 237 C
BOILING POINT	
DENSITY	
SOLUBILITY IN WATER	Insoluble
pH	
VAPOR DENSITY	
REFRACTIVE INDEX	
FLASH POINT	

GENERAL DESCRIPTION

Pharmacology: Used to treat hypertension. Rescinnamine inhibits angiotensin-converting enzyme. ACE is a peptidyl dipeptidase that catalyzes the conversion of angiotensin I to the vasoconstrictor substance, angiotensin II. Angiotensin II also stimulates aldosterone secretion by the adrenal cortex. Mechanism of Action: Binds to and inhibits the angiotensin converting enzyme. Rescinnamine competes with angiotensin I for binding at the angiotensin-converting enzyme, blocking the conversion of angiotensin I to angiotensin II. Inhibition of ACE results in decreased plasma angiotensin II. As angiotensin II is a vasoconstrictor and a negative-feedback mediator for renin activity, lower concentrations result in a decrease in blood pressure and stimulation of baroreceptor reflex mechanisms, which leads to decreased vasopressor activity and to decreased aldosterone secretion. (source: http://www.drugbank.ca/)

Inhibition by alkaloids is difficult to explain since they have very different structures. Except trigonelline (the only monocyclic alkaloid evaluated), most of them have a large structure with several rings, which makes difficult their entering into the narrow tunnel of CRL, and thus, their access to the active site of this lipase (Pleiss et al., 1998; Cygler & Schrag, 1997 and 1999). This fact could explain the lack of inhibition of some of them. However, further considerations are possible with respect to the indole-benzopyrrole alkaloids. Raubasine (inactive) and rescinnamine or reserpine (the most active) share the same indole nucleus. Thus, it is clear that the inhibition produced by rescinnamine and reserpine is, respectively, due to the

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[(2E)-1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propenyl]oxy or the [(3,4,5-trimethoxybenzoyl)oxy] groups bound to C18 in the indole nucleus of the alkaloid. As we suggested before for the carbohydrate chains of saponins, we think that these two groups can enter the tunnel of CRL and interfere with the active site of the enzyme, while the indole nucleus remains outside the tunnel, probably associated with the hydrophobic patch located under the tunnel entrance or with other hydrophobic structures of CRL surface (Cygler & Schrag, 1997 and 1999). This hypothesis is supported by the fact that rescinnamine, whose longer group could enter more deeply into the tunnel of CRL than that of reserpine, is itself more active than reserpine. (source: http://www.tdx.cesca.es/)

STABILITY AND REACTIVITY

STABILITY	Stable under normal conditions. Light sensitive. May cause reproductive and fetal effects. May change color when exposed to light or air.
INCOMPATIBLE MATERIALS	Strong oxidizing agents, direct light
DECOMPOSITION PRODUCTS	Carbon monoxide, Carbon dioxide, Nitrogen oxidese
POLYMERIZATION	Will not occur

SAFETY

HAZARD NOTES	May be harmful if swallowed. May cause eye and skin irritation. Light sensitive. May cause reproductive and fetal effects. Target Organ(s): Central nervous system.
EYE	May cause eye irritation.
SKIN	May cause skin irritation. May be harmful if absorbed through the skin.
INGESTION	May cause central nervous system depression. May be harmful if swallowed. Overexposure may cause excessive drowsiness, hypotension, fatigue, weakness, insomnia, nightmares, excitement, irrational behavior, and parkinsonian rigidity.
INHALATION	May cause rhinitis. Causes nasal congestion, increased bronchiolar secretion and constriction, edema, possible heart failure. Aggrivates dermatological disorders by cutaneous vasodilation.
CHRONIC	Exposure may cause nosebleeds, insomnia, paradoxical anxiety, nervousness, dryness of mouth, sialorrhea, decreased libido, gynecomastia, and estrogenic effects in females.
NFPA RATING	Health: 1, flammability: 0, reactivity: 0

SALES SPECIFICATION

APPEARANCE	white to off-white crystalline powder
ASSAY	98.0% min
MELTING POINT	234 - 237 C

TRANSPORT & REGULATORY INFORMATION

UN NO.	
HAZARD CLASS	
PACKING GROUP	
HAZARD SYMBOL	XN
RISK PHRASES	20/21/22
SAFETY PHRASES	24/25

PACKING

RESCINNAMINE

PRICE