

0022 - Flax for Lignans by HPLC

Botanical Name: *Linum usitatissimum*

Common Names: Flax, Common Flax, Linseed

Plant Description:

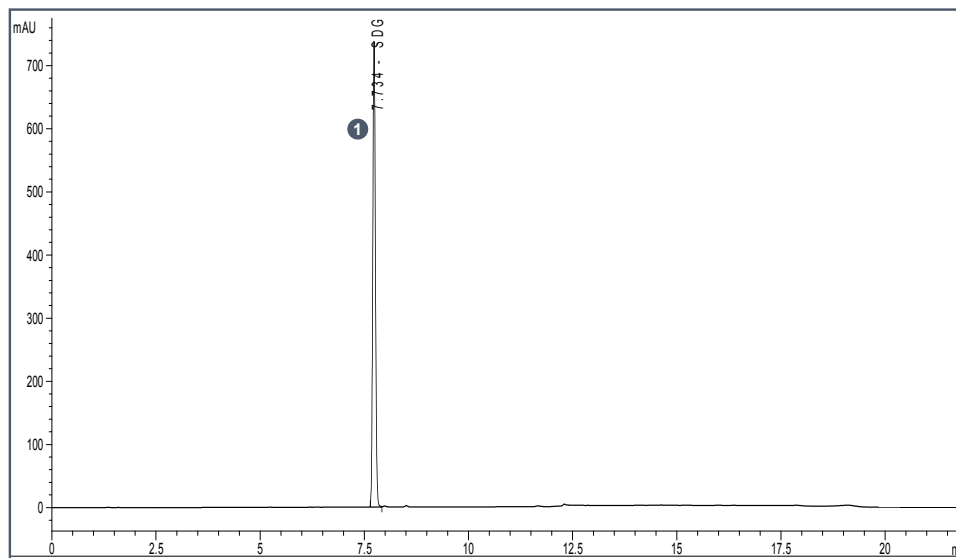
Linum usitatissimum is native to the Mediterranean but widely cultivated throughout Canada and China. Plants grow to 1-2m with tall, slender stems. Flowers appear from June to July and are typically pale blue but can also be bright red. The plants bear small, round fruit 5-9mm in diameter which ripen between August and September. Each fruit contains several small glossy seed similar to apple pips which contain the biologically active constituents. The seeds come in two basic varieties: brown, and yellow or golden.



Therapeutic Use Overview:

The leaves of *linum usitatissimum* contain high levels of dietary fiber as well as lignans and omega-3 fatty acid, specifically alpha linolenic acid. The seeds can be cold pressed and subjected to solvent extraction, producing linseed oil which is edible oil with a strong flavor and odor. Alpha linolenic acid has been attributed to normal infant development, either given as oil or seeds. When crushed and ground, the seeds are also used for severe cases of chronic constipation, gastritis, and enteritis.

Representative HPLC Analysis: Mixed Standard Solution



Analytes:

- 1 Secoisolariciresinol diglucoside

Instrument Parameters

Column: Phenomenex Luna C18(2)
150 x 4.6 mm, 5µ

Detection: UV-Vis @ 220nm

Flow Rate: 1.5 mL/min

Injection Volume: 5 µL

Temperature: 25°C

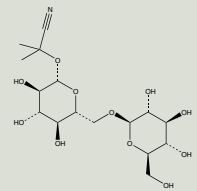
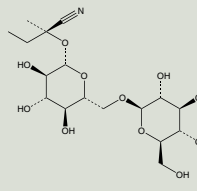
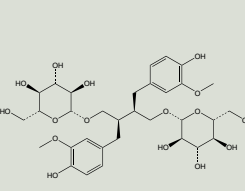
Mobile Phase A: 0.1% H₃PO₄

Mobile Phase B: ACN

Gradient Program

Time (min)	%A	%B
0	95	5
10	70	30
13	30	70
15	30	70
17	95	5
22	95	5

Phytochemical Reference Standards

Product Description And Details	Product ID	Qty
 <p>LINUSTATIN Grade: P CAS#: [72229-40-4] Chemical Formula: C₁₆H₂₇O₁₁ FW: 409.39</p>	ASB-00012282-005	5mg
	ASB-00012282-010	10mg
	ASB-00012282-025	25mg
 <p>NEOLINUSTATIN Grade: P CAS#: [72229-42-6] Chemical Formula: C₁₇H₂₉O₁₁ FW: 423.41</p>	ASB-00014270-005	5mg
	ASB-00014270-010	10mg
	ASB-00014270-025	25mg
 <p>SECO-ISOLARICIREBINOL DIGLUCOSIDE(SDG) Grade: P CAS#: [158932-33-3] Chemical Formula: C₃₂H₄₆O₁₆ FW: 686.7</p>	ASB-00019103-005	5mg
	ASB-00019103-010	10mg
	ASB-00019103-025	25mg
	ASB-00019103-100	100mg

Reference Standard Kits

Product Name	Contents	Product ID	Qty
FLAX SEED STANDARDS KIT	LINUSTATIN(P)	KIT-00006070-005	3 x 5mg vials
	NEOLINUSTATIN(P)	KIT-00006070-010	3 x 10mg vials
	SECO-ISOLARICIREBINOL	KIT-00006070-0HK	3 x 10mg + C
	DIGLUCOSIDE(SDG)(P)		+ M vials

Botanical Reference Materials

Product Description	Grade	Product ID	Qty
FLAX SEED (LINUM USITATISSIMUM) SEED	BRM	ASB-00030250-005	5g

Additional Related Compounds

Product Description And Details	Product ID	Qty
ENTEROLACTONE Grade: P CAS#: [78473-71-9] Chemical Formula: C ₁₈ H ₁₈ O ₄ FW: 298.34	ASB-00005455-005	5mg
	ASB-00005455-010	10mg

Product Description And Details	Product ID	Qty
HERBACETIN-3,8-DIGLUCOPYRANOSIDE Grade: P CAS#: [99224-12-1] Chemical Formula: $C_{27}H_{30}O_{17}$ FW: 626.52	ASB-00008102-005 ASB-00008102-010	5mg 10mg
LINOCINAMARIN Grade: P CAS#: [554-87-0] Chemical Formula: $C_{16}H_{20}O_8$ FW: ?	ASB-00012280-005 ASB-00012280-010	5mg 10mg
LINUSITARNARIN Grade: P CAS#: [] Chemical Formula: FW: ?	ASB-00012281-005 ASB-00012281-010	5mg 10mg
MATAIRESINOL Grade: RG CAS#: [580-72-3] Chemical Formula: $C_{20}H_{22}O_6$ FW: 358.39	ASB-00013152-001 ASB-00013152-005	1mg 5mg
PINORESINOL DIGLUCOSIDE Grade: P CAS#: [63902-38-5] Chemical Formula: $C_{32}H_{42}O_{16}$ FW: 682.67	ASB-00016865-005	5mg
SECO-ISOLARICIRESINOL(SECO) Grade: P CAS#: [29388-59-8] Chemical Formula: $C_{20}H_{26}O_6$ FW: 362.42	ASB-00019102-005 ASB-00019102-010	5mg 10mg
SECO-ISOLARICIRESINOL, (+)-ANHYDRO-(ANSECO) Grade: P CAS#: [34730-78-4] Chemical Formula: $C_{20}H_{24}O_5$ FW: 344.4	ASB-00019101-005 ASB-00019101-010	5mg 10mg