

0075 - Maca for Isothiocyanates by HPLC

Botanical Name: *Lepidium meyenii*

Common Names: Maca, maca-maca, maino, ayak chichira

Plant Description:

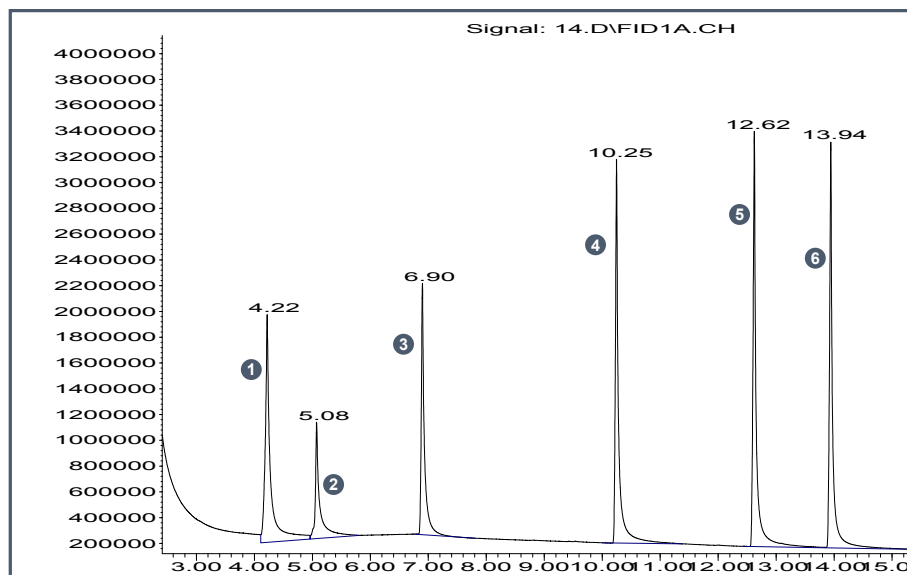
Lepidium meyenii, commonly known as maca, is an annual herbaceous plant. Traditionally grown at altitudes of 4,100-4,500m, it thrives in cold climates that have relatively poor agricultural soils. The tops of the plant lie on the ground with thin, frilly leaves radiating out from the center. The taproot is fused with a fleshy hypocotyl that can be gold, cream, red, purple, blue, black or green. Each color is considered a unique genetic variety and has been shown to contain different compounds contributing to various nutritional and therapeutic values.

Therapeutic Use Overview:

Lepidium meyenii roots and hypocotyls contain a wide variety of bioactive compounds. These include: sugars, proteins, glucosinolates, alkamides and essential minerals (selenium, calcium, magnesium, iron). The roots can be dried, gelatinized, powdered or floured. It has been traditionally used as an aphrodisiac by the people of the Andes Mountains for 2000 years, with only recent studies showing that p-methoxybenzyl isothiocyanate (found in the root) has the capacity to increase libido, as well as semen quality and volume.



Representative HPLC Analysis: Mixed Standard Solution



Analytes:

- 1 Allyl Isothiocyanate 2 Benzyl Isothiocyanate 3 Butyl Isothiocyanate 4 Isopropyl Isothiocyanate
5 Phenyl Isothiocyanate 6 Phenylethyl Isothiocyanate

Instrument Parameters

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

Detection: UV-Vis @ ? nm

Flow Rate: 1.0 mL/min

Injection Volume: 5 µL

Temperature: 40 °C

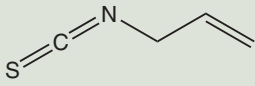
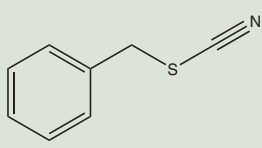
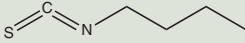
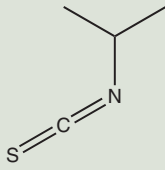
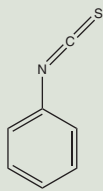
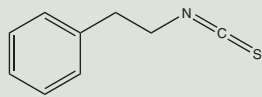
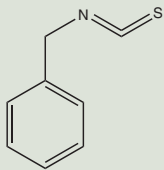
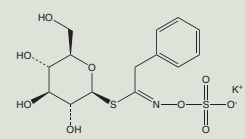
Mobile Phase A: ACN

Mobile Phase B: Milli-Q Water

Gradient Program

Time (min)	%A	%B
0.0	3.0	97.0
5.0	8.0	92.0
9.0	48.0	52.0
23.0	62.0	38.0
25.0	99.0	1.0
45.0	99.0	1.0

Phytochemical Reference Standards

Product Description And Details	Product ID	Qty
 <p>ALLYL ISOTHIOCYANATE Grade: SG CAS#: [57-06-7] Chemical Formula: C₄H₅NS FW: 99.16</p>	ASB-00001608-001	1g
 <p>BENZYL THIOCYANATE Grade: SG CAS#: [3012-37-1] Chemical Formula: C₈H₇NS FW: 149.22</p>	ASB-00002185-001	1g
 <p>BUTYL ISOTHIOCYANATE Grade: SG CAS#: [592-82-5] Chemical Formula: C₅H₉NS FW: 115.2</p>	ASB-00002493-001	1g
 <p>ISOPROPYL ISOTHIOCYANATE Grade: RG CAS#: [2253-73-8] Chemical Formula: C₄H₇NS FW: 101.17</p>	ASB-00009496-001	1g
 <p>PHENYL ISOTHIOCYANATE Grade: SG CAS#: [103-72-0] Chemical Formula: C₇H₅NS FW: 135.19</p>	ASB-00016590-001 ASB-00016590-010	1g 10g
 <p>PHENYLETHYL ISOTHIOCYANATE Grade: RG CAS#: [2257-09-2] Chemical Formula: C₉H₉NS FW: 163.24</p>	ASB-00016470-001	1g
 <p>BENZYL ISOTHIOCYANATE Grade: SG CAS#: [622-78-6] Chemical Formula: C₈H₇NS FW: 149.22</p>	ASB-00002155-001	1g
 <p>GLUCOTROPAEO-LIN POTASSIUM SALT Grade: SH CAS#: [5115-71-9] Chemical Formula: C₁₄H₁₈NO₉S₂.K FW: 447.52</p>	ASB-00007300-005 ASB-00007300-010 ASB-00007300-100	5mg 10mg 100mg

Reference Standards Kits

Product Name	Contents	Product ID	Qty
MACA STANDARDS KIT	ALLYL ISOTHIOCYANATE(SG) BENZYL ISOTHIOCYANATE(SG) BUTYL ISOTHIOCYANATE(SG) GLUCOTROPAEOLIN POTASSIUM SALT(SH) ISOPROPYL ISOTHIOCYANATE(RG) PHENYL ISOTHIOCYANATE(SG) PHENYLETHYL PHENYLETHYL ISOTHIOCYANATE(RG) THIOGLUCOSIDASE(RG)	KIT-00013002-001	1 Kit
MACA ANALYSIS KIT	ALLYL ISOTHIOCYANATE(SG) BENZYL ISOTHIOCYANATE(SG) BUTYL ISOTHIOCYANATE(SG) GLUCOTROPAEOLIN POTASSIUM SALT(SH) ISOPROPYL ISOTHIOCYANATE(RG) LUNA 5U C18(2) 150X4.6 MACA ISOTHIOCYANATES by HPLC PHENYL ISOTHIOCYANATE(SG) PHENYLETHYL ISOTHIOCYANATE(RG) THIOGLUCOSIDASE(RG)	KIT-00013004-0HK	1 Kit + C

Additional Related Compounds

Product Description And Details	Product ID	Qty
ALANINE, L- Grade: RG CAS#: [56-41-7] Chemical Formula: C ₃ H ₇ NO ₂ FW: 89.09	ASB-00001502-100 ASB-00001502-001 ASB-00001502-005	100mg 1g 5g
ARGININE, L- Grade: P CAS#: [74-79-3] Chemical Formula: C ₆ H ₁₄ N ₄ O FW: 174.2	ASB-00001981-050 ASB-00001981-100	50mg 100mg
ASPARAGINE, L- Grade: RG CAS#: [70-47-3] Chemical Formula: C ₄ H ₈ N ₂ O ₃ FW: 132.12	ASB-00011040-100 ASB-00011040-100	100mg 1g

Product Description And Details	Product ID	Qty
ASPARTIC ACID, L- Grade: RG CAS#: [56-84-8] Chemical Formula: C ₄ H ₇ NO ₄ FW: 133.1	ASB-00011051-100 ASB-00011051-005	100mg 5g
THIOGLUCOSIDASE Grade: RG CAS#: [9025-38-1] Chemical Formula: FW:	ASB-00020268-025	25 units