

Lepidium meyenii (Maca)
: J Endocrinol. 2004 Jan;180(1):87-95.

Related Articles, Links
<http://www.ncbi.nlm.nih.gov/80/entrez/utils/fref.fcgi?http://journals.endocrinology.org/joe/180/joe1800087.htm>

Effect of *Lepidium meyenii* (Maca) on spermatogenesis in male rats acutely exposed to high altitude (4340 m).

Gonzales GF, Gasco M, Cordova A, Chung A, Rubio J, Villegas L.

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In conclusion, treatment of rats with Maca at high altitude prevented high altitude-induced spermatogenic disruption.

Effects of *Lepidium meyenii* Walp and *Jatropha macrantha* on blood levels of estradiol-17 beta, progesterone, testosterone and the rate of embryo implantation in mice.

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Graduate School of Medical Imaging, Suzuka University of Medical Science, Suzuka-chi, Mie, Japan.

The effects of two Peruvian folk medicines, *Lepidium meyenii* Walp and *Jatropha macrantha*, on mouse sex steroid hormones and embryo implantation were investigated. Progesterone levels increased significantly in mice that received *L. meyenii* Walp, while testosterone levels increased significantly in mice that received *L. meyenii* Walp as well as in those that received both *L. meyenii* Walp and *J. macrantha*. However, there were no marked changes in blood levels of estradiol-17beta or the rate of embryo implantation.

1: J Nat Prod. 2003 Aug;66(8):1101-3.

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<http://www.ncbi.nlm.nih.gov/80/entrez/utils/fref.fcgi?http://dx.doi.org/10.1021/np030031>

[i](#)

Imidazole alkaloids from *Lepidium meyenii*.

Cui B, Zheng BL, He K, Zheng QY.

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Two new imidazole alkaloids (lepidiline A and lepidiline B) have been isolated from a root extract of *Lepidium meyenii* with the common name Maca and identified as 1,3-dibenzyl-4,5-dimethylimidazolium chloride (1) and 1,3-dibenzyl-2,4,5-trimethylimidazolium chloride (2), respectively. The structures of these two new compounds were determined by spectroscopic methods, as well as single-crystal X-ray diffraction performed on compound 1.

http://www.ncbi.nlm.nih.gov/80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12800989&dopt=Abstract

Decontamination of seeds for seed sprout production by high hydrostatic pressure.

Wuytack EY, Diels AM, Meersseman K, Michiels CW.

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Garden cress, sesame, radish, and mustard seeds immersed in water were treated with high pressure (250, 300, 350, and 400 MPa) for 15 min at 20 degrees C. After treatment, percentages of seeds germinating on water agar were recorded for up to 11 days. Of the seeds tested, radish seeds were found to be the most pressure sensitive, with seeds treated at 250 MPa reaching 100% germination 9 days later than untreated control seeds did. Garden cress seeds, on the other hand, were the most pressure resistant,

with seeds treated at 250 MPa reaching 100% germination 1 day later than untreated control seeds did. Garden cress sprouts from seeds treated at 250 and 300 MPa also took about 1 day longer to reach average sprout length than sprouts from untreated control seeds did, indicating that sprout growth was not retarded once germination had occurred. Garden cress seeds were inoculated with suspensions of seven different bacteria (10⁷ CFU/ml) and processed with high pressure. Treatment at 300 MPa (15 min, 20 degrees C) resulted in 6-log reductions of *Salmonella* Typhimurium, *Escherichia coli* MG1655, and *Listeria innocua*, > 4-log reductions of *Shigella flexneri* and pressure-resistant *E. coli* LMM1010, and a 2-log reduction of *Staphylococcus aureus*. *Enterococcus faecalis* was virtually not inactivated. For suspensions of the gram-positive bacteria, similar levels of inactivation in water in the absence of garden cress seeds were found, but the inactivation of *E. coli* LMM1010 and *S. flexneri* in water in the absence of garden cress seeds was significantly less extensive. These data suggest that garden cress seeds contain a component that acts synergistically with high hydrostatic pressure against gram-negative bacteria.

PMID: 12800989 [PubMed - indexed for MEDLINE]

Zhong Yao Cai. 1998 May;21(5):243-5.

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[Effect of aqueous extract of *Lepidium apetalum* on dog's left ventricular function]

[Article in Chinese]

Wu X, Yang Y, Huang D.

Nanhai Hospital of TCM, Nanhai 528200.

Left ventricular myocardial contractility, function of pump-blood and coronary flow in dog were increased by i.v. aqueous extract of *Lepidium apetalum* (AELA) 0.2 ml/kg (containing crude medicinal herb 2 g/ml). The effects were similar to i.v. isoperaline 10 micrograms/kg, but AELA did not obviously change heart rate, arterioveno-oxygen partial pressure difference and

arteriovenooxygen solubility. The results indicated the AELA had advantages of cordial effect and increasing coronary flow instead of enhancing oxygen consumption of cardiac muscle.

PMID: 12567958 [PubMed - indexed for MEDLINE]

1: J Endocrinol. 2003 Jan;176(1):163-8

Effect of *Lepidium meyenii* (Maca), a root with aphrodisiac and fertility-enhancing properties, on serum reproductive hormone levels in adult healthy men.

Gonzales GF, Cordova A, Vega K, Chung A, Villena A, Gonez C.

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Lepidium meyenii (Maca) is a Peruvian hypocotyl that grows exclusively between 4000 and 4500 m in the central Andes. Maca is traditionally employed in the Andean region for its supposed aphrodisiac and/or fertility-enhancing properties. This study was a 12-week double-blind, placebo-controlled, randomized, parallel trial in which active treatment with different doses of Maca Gelatinizada was compared with a placebo. The study aimed to test the hypothesis that Maca has no effect on serum reproductive hormone levels in apparently healthy men when administered in doses used for aphrodisiac and/or fertility-enhancing properties. Men aged between 21 and 56 Years received 1500 mg or 3000 mg Maca. Serum levels of luteinizing hormone, follicle-stimulating hormone, prolactin, 17-alpha hydroxyprogesterone, testosterone and 17-beta estradiol were measured before and at 2, 4, 8 and 12 weeks of treatment with placebo or Maca (1.5 g or 3.0 g per day). Data showed that compared with placebo Maca had no effect on any of the hormones studied nor did the hormones show any changes over time. Multiple regression analysis showed that serum

testosterone levels were not affected by treatment with Maca at any of the times studied (P, not significant). In conclusion, treatment with Maca does not affect serum reproductive hormone levels.

Publication Types:

- Clinical Trial
- Randomized Controlled Trial

PMID: 12525260 [PubMed - indexed for MEDLINE]

1: Andrologia. 2002 Dec;34(6):367-72.

[Related Articles, Links](#)

<http://www.ncbi.nlm.nih.gov/80/entrez/utils/fref.fcgi?http://www.blackwell-synergy.com/openurl?genre=article&sid.nlm:pubmed&issn=0303-4569&date=2002&volume=34&issue=6&spage=367>

Effect of *Lepidium meyenii* (MACA) on sexual desire and its absent relationship with serum testosterone levels in adult healthy men.

Gonzales GF, Cordova A, Vega K, Chung A, Villena A, Gonez C, Castillo S.

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This study was a 12-week double blind placebo-controlled, randomized, parallel trial in which active treatment with different doses of Maca Gelatinizada was compared with placebo. The study aimed to demonstrate if effect of Maca on subjective report of sexual desire was because of effect on mood or serum testosterone levels. Men aged 21-56 years received Maca in one of two doses: 1,500 mg or 3,000 mg or placebo. Self-perception on sexual desire, score for Hamilton test for depression, and Hamilton test for anxiety were measured at 4, 8 and 12 weeks of treatment. An improvement in sexual desire was observed with Maca since 8 weeks of treatment. Serum testosterone and oestradiol levels were not different in men treated with Maca and in those treated with placebo (P:NS). Logistic regression analysis showed that Maca has an independent effect on sexual desire at 8 and 12 weeks of treatment, and this effect is not because of changes in either Hamilton scores for depression or anxiety or serum testosterone

and oestradiol levels. In conclusion, treatment with Maca improved sexual desire.

Publication Types:

- Clinical Trial
 - Randomized Controlled Trial
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