

## Ursolsyra

Ursolsyra är en syra som man inte kan läsa jättemycket om på svenska, men det finns massor av studier att läsa på engelska (ursolic acid)

Kanske är ursolsyra det som gör att det ligger en hel del i påståendet att ett äpple om dagen håller doktorn borta. Självtänkt kommer jag att tänka på Iduns äpplen.

Äppelskal är den mest kända källan till ursolsyra och ursolsyrans mest kända egenskap är att den förhindrar muskler att brytas ned.

Utöver det är ursolsyran anti-inflammatorisk och har en förmåga att balansera blodsockret. Den är en fantastiskt potent antioxidant.

Den har en förmåga att höja dopaminhalten, men man vet ännu inte riktigt hur.

Det har gjorts en hel del studier på ämnet.

Välj gärna ut 3 av följande länkar så får du en uppfattning om vilket intressant ämne detta är

1. Anti-lipase and lipolytic activities of ursolic acid isolated from the roots of *Actinidia arguta*.  
Arch Pharm Res. 2009 Jul;32(7):983-7.

<http://www.ncbi.nlm.nih.gov/pubmed/19641878>

2. Ursolic acid increases skeletal muscle and brown fat and decreases diet-induced obesity, glucose intolerance and fatty liver disease.

PLoS One. 2012;7(6):e39332.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3379974/>

3. Anti-diabetic potential of ursolic acid stearyl glucoside: A new triterpenic glycosidic ester from *Lantana camara*.

Fitoterapia. 2011 Oct 24.

<http://www.ncbi.nlm.nih.gov/pubmed/22051701>

4. Ursolic acid and luteolin-7-glucoside improve lipid profiles and increase liver glycogen content through glycogen synthase kinase-3.

CBMA - Centre of Molecular and Environmental Biology/Department of Biology, University of Minho, Campus de Gualtar, Braga, Portugal.

<http://www.ncbi.nlm.nih.gov/pubmed/20127879>

5. Ursolic Acid, a Pentacyclic Triterpene from *Sambucus australis*, Prevents Abdominal Adiposity in Mice Fed a High-Fat Diet.

J Med Food. 2011 Nov;14(11):1375-82..

<http://www.ncbi.nlm.nih.gov/pubmed/21612453>

6. Ursolic acid and rosiglitazone combination alleviates metabolic syndrome in high fat diet fed C57BL/6J mice.

Gen Physiol Biophys. 2012 Sep;31(3):323-33. doi: 10.4149/gpb\_2012\_037.

<http://www.ncbi.nlm.nih.gov/pubmed/23047945>

7. Ursolic acid inhibits early lesions of diabetic nephropathy.

College of Life Sciences, Wuhan University, Wuhan, P.R. China.

<http://www.ncbi.nlm.nih.gov/pubmed/20818497>

8. Ursolic acid ameliorates thymic atrophy and hyperglycemia in streptozotocin-nicotinamide-induced diabetic mice.

Department of Food and Nutrition, Suncheon National University, Suncheon 540-742, Republic of Korea.

<http://www.ncbi.nlm.nih.gov/pubmed/20869956>

9. mRNA expression signatures of human skeletal muscle atrophy identify a natural compound that increases muscle mass.

Department of Internal Medicine, Roy J. and Lucille A. Carver College of Medicine, The University of Iowa, Iowa City, IA 52242, USA.

<http://www.ncbi.nlm.nih.gov/pubmed/21641545>

10. Potent anti-inflammatory activity of ursolic acid, a triterpenoid antioxidant, is mediated through suppression of NF- $\kappa$ B, AP-1 and NF-AT.

PLoS One. 2012;7(2):e31318.

<http://www.ncbi.nlm.nih.gov/pubmed/22363615>

11. Ursolic acid suppresses IL-6 induced C-reactive protein expression in HepG2 and protects HUVECs from injury induced by CRP.

Eur J Pharm Sci. 2012 Jan 23;45(1-2):190-4.

<http://www.ncbi.nlm.nih.gov/pubmed/22108347>

12. Ursolic acid is a PPAR- $\alpha$  agonist that regulates hepatic lipid metabolism.

Bioorg Med Chem Lett. 2011 Oct 1;21(19):5876-80.

<http://www.ncbi.nlm.nih.gov/pubmed/21855333>

13. Ursolic acid stimulates lipolysis in primary-cultured rat adipocytes.

Mol Nutr Food Res. 2010 Nov;54(11):1609-17.

<http://www.ncbi.nlm.nih.gov/pubmed/20521271>

14. Ursolic acid from the Chinese herb danshen (*Salvia miltiorrhiza* L.) upregulates eNOS and downregulates Nox4 expression in human endothelial cells.

Atherosclerosis. 2007 Nov;195(1):e104-11.

<http://www.ncbi.nlm.nih.gov/pubmed/17481637>

15. *Prunella vulgaris* L. Upregulates eNOS expression in human endothelial cells.

Am J Chin Med. 2010;38(3):599-611.

<http://www.ncbi.nlm.nih.gov/pubmed/20503475>

16. Ursolic acid induces allograft inflammatory factor-1 expression via a nitric oxide-related mechanism and increases neovascularization.

J Agric Food Chem. 2010 Dec 22;58(24):12941-9.

<http://www.ncbi.nlm.nih.gov/pubmed/21070071>

17. Stimulation of glucose uptake by triterpenoids from *Weigela subsessilis*.

Phytother Res. 2010 Jan;24(1):49-53.

<http://www.ncbi.nlm.nih.gov/pubmed/19548274>

18. Modulation of angiogenic factors by ursolic acid

Biochem Biophys Res Commun. 2008 Jul 4;371(3):556-60. Epub 2008 Apr 28.

<http://www.ncbi.nlm.nih.gov/pubmed/18448068>

19. Antidepressant-like effect of ursolic acid isolated from *Rosmarinus officinalis* L. in mice: Evidence for the involvement of the dopaminergic system.

Pharmacol Biochem Behav. 2012 Aug 25;103(2):204-211. doi: 10.1016/j.pbb.2012.08.016.

<http://www.ncbi.nlm.nih.gov/pubmed/22940588>

20. Ursolic acid enhances mouse liver regeneration after partial hepatectomy.

Pharm Biol. 2012 Apr;50(4):523-8.

<http://www.ncbi.nlm.nih.gov/pubmed/22136205>

21. Ursolic acid improves high fat diet-induced cognitive impairments by blocking endoplasmic reticulum stress and I $\kappa$ B kinase  $\beta$ /nuclear factor- $\kappa$ B-mediated inflammatory pathways in mice. *Brain Behav Immun.* 2011 Nov;25(8):1658-67.  
<http://www.ncbi.nlm.nih.gov/pubmed/21708244>
22. Uncoupling and antioxidant effects of ursolic acid in isolated rat heart mitochondria. *J Nat Prod.* 2011 Jul 22;74(7):1640-4.  
<http://www.ncbi.nlm.nih.gov/pubmed/21648406>
24. Evaluation of ursolic acid isolated from *Ilex paraguariensis* and derivatives on aromatase inhibition  
*Eur J Med Chem.* 2008 Sep;43(9):1865-77.  
<http://www.ncbi.nlm.nih.gov/pubmed/18192087>
25. Anabolic activity of ursolic acid in bone: Stimulating osteoblast differentiation in vitro and inducing new bone formation in vivo  
*Pharmacol Res.* 2008 Nov-Dec;58(5-6):290-6.  
<http://www.ncbi.nlm.nih.gov/pubmed/18822379>
26. A high content drug screen identifies ursolic acid as an inhibitor of amyloid beta protein interactions with its receptor CD36.  
*J Biol Chem.* 2011 Oct 7;286(40):34914-22. Epub 2011 Aug 11.  
<http://www.ncbi.nlm.nih.gov/pubmed/21835916>
27. The anti-arthritic effect of ursolic acid on zymosan-induced acute inflammation and adjuvant-induced chronic arthritis models.  
*J Pharm Pharmacol.* 2008 Oct;60(10):1347-54.  
<http://www.ncbi.nlm.nih.gov/pubmed/18812028>