

## L-Arginin

**Entscheidend für den Bedarf an L-Arginin sind Faktoren wie oxidativer und nitrosativer Stress, d.h. entscheidend ist das Verhältnis L-Arginin zu ADMA- (asymmetrisches Dimethylarginin).**

**Proteine, die L-Arginin enthalten, werden durch diese Ladung wasserlöslicher.**

**Crucial to the need for L-arginine are factors such as oxidative and nitrosative stress, ie the decisive factor is the ratio of L-arginine to ADMA (asymmetric dimethylarginine).**

**Proteins that contain L-arginine, are water-soluble due to that charge.**

Drapier JC, Wietzerbin J, Hibbs JB, Jr. (1988) Interferon-gamma and tumor necrosis factor induce the L-arginine-dependent cytotoxic effector mechanism in murine macrophages. *Eur J Immunol.* 18, 1587-92

Moncada S, Higgs E.A. (1990) Nitric Oxide from L-Arginine: A Bioregulatory System. Amsterdam: Elsevier Science Publishers

Moncada S. (1992) The L-Arginine/Nitric Oxide Pathway. *Acta Physiologica Scandinavica.*145:201-227

Hurson M, Regan M.C., Kirk S.J., et al. (1995) Metabolic Effects of Arginine in a Healthy Elderly Population. *Journal of parental and enteral Nutrition.* 19, 227-230

Zweier JL, Wang P, Samouliov A, Kuppsomy P (1995) Enzyme-independent formation of nitric oxide in biological tissues. *Nature Medicine* 1, 804-809

Clarkson P, Adams M.R., Powe A.J. et al.(1996) Oral L-Arginine Improves Endothelium-Dependent Dilation in Hypercholesterolemic Young Adults. *Journal of Clinical Investigation.* 97, 1989-1994

Rector T.S., Bank A.J., Mullen K.A. et al. (1996) Randomized, Double-Blind, Placebo Controlled Study of Supplemental Oral L-Arginine in Patients with Heart Failure. *Circulation.* 93, 2135-2141

Wolf A, Zalpour C, Theilmeyer G et al. (1997) Dietary L-Arginine Supplementation Normalize Platelet Aggregation in Hypercholesterolemic Humans. *Jornal of American College of Cardiology.* 29, 479-85.

Ceremuzynski L, Chamiec T, Herbaczynska-Cedro K.(1997) Effect of supplemental oral L-arginine on exercise capacity in patients with stable angina pectoris. *Am J Cardiol.*80, 331-3

Pezza V, Bernardini F, Pezza E et al. Study (1998) of supplemental oral L-arginine in hypertensives treated with enalapril and hydrochlorothiazide. *American Journal of Hypertension:Journal of the American Society of Hypertension* 11. 10, 1267-1270

Chen J, Wollman T, Chernichivsky T et al. (1999) Effect of oral administration of high-dose nitric oxide donor L-arginine in men with organic erectile dysfunction: results of a double-blind, randomized, placebo-controlled study. *BJU International.* 83, 269-273

Hutchison S, Sudhir K, Sievers RE et al. (1999) Effects of L-Arginin on Atherogenesis and Endothelial Dysfunction due to Secondhand Smoke. *Hypertension.*34, 44-50.

Holmes DR Jr (1999) Longterm L-Arginine supplementation improves small-vessel coronary endothelial function in humans. *Circulation.* 99(12), 1648-1649

- Cooke JP, Oka RK. (2001) Atherogenesis and the Arginine Hypothesis. *Current Atherosclerosis Reports*. 3, 252-259.
- Ströhle A. (2001) Die Bedeutung von Arginin im arteriosklerotischen Geschehen – biochemische und therapeutische Aspekte einer semiessentiellen Aminosäure. *Journal für Orthomolekulare Medizin* 9,1, 47-62
- Piatti PM, Monti LD, Valsecchi G et al. (2001) Long term L-Arginine administration improves peripheral and hepatic insulin sensitivity in type 2 diabetic patients. *Diabetes care* 24(5), 875-880
- Kelly B.S., Alexander J.W., Dreyer D, et al. (2001) Oral arginine improves blood pressure in renal transplant and hemodialysis patients. *Journal of parental and enteral nutrition* 25. 4, 194-202
- Mantovani F, Patelli E, Colombo F, Pozzoni F, Confalonieri S, Pisani E (2001) Erectile dysfunction after non nerve-sparing radical pelvic surgery. *Minerva Urol Nefrol*. 53(3), 135-7. Italian.
- Lebret T, Herve JM, Gorny P, Worcel M, Botto H (2002) Efficacy and safety of a novel combination of L-arginine glutamate and yohimbine hydrochloride: a new oral therapy for erectile dysfunction. *Eur Urol*. 41(6), 608-13; discussion 613.
- Tousoulis D, Antoniadou C, Tentolouris C et al. (2002) L-Arginine in cardiovascular disease: dream or reality? *Vascular Medicine*. 7, 203-211.
- Ochsner UA, Snyder A, Vasil AI et al. (2002) Effects of the twin-arginine translocase on secretion of virulence factors, stress response, and pathogenesis. *Proc Natl Acad Sci USA* 99, 8312–7.
- Parker J.O., Parker J.D., Caldwell R.W., et al. (2002): The effect of supplemental L-Arginine on tolerance development during continuous transdermal nitroglycerin therapy. *J Am Coll Cardiol*. 7, 1199-203
- Appleton J. (2002) Arginine: Clinical Potential of a semi-essential amino acid. *Altern Med Rev* 7, 512-522
- Huynh N.T, Tayek J.A. (2002) Oral arginine reduces systemic blood pressure in type 2 diabetes: its potential role in nitric oxide generation. *Journal of American College of Nutrition* 21. 5, 422-427
- de Nigris F, Lerman LO, Ignarro SW et al. (2003) Beneficial effects of antioxidants and L-Arginine on oxidation-sensitive gene expression and endothelial NO synthase activity at sites of disturbed shear stress. *Proceedings of the National Academy of Sciences USA*. 100, 1420-1425
- Stanislavov R, Nikolova V (2003) Treatment of erectile dysfunction with pycnogenol and L-arginine. *J Sex Marital Ther*. 29(3), 207-13.
- Bode-Böger SM, Muke J, Surdacki A, Brabant G, Böger RH, Frölich JC (2003) Oral L-arginine improves endothelial function in healthy individuals older than 70 years. In: *Vasc. Med*. 8, 77-81
- Loscalco J (2004) L-Arginine and atherothrombosis. *J Nutr* 134, 2798S-2800S
- Gokce N (2004) L-Arginine and Hypertension. *J Nutr* 134, 2807S-2811S
- Rytlewski K, Olszanecki R, Korbut R et al. (2005) Effects of prolonged oral supplementation with L-arginine on blood pressure and nitric oxide synthesis in preclampsia. *European Journal of Clinical Investigation*. 35, 32-37.
- Bronte V, Zanovello P (2005) **Regulation of immune responses by L-arginine metabolism.** *Nat.Rev.Immunol*. 5, 641-54
- Agarwal A, Nandipati KC, Sharma RK, Zippe CD, Raina R (2005) Role of oxidative stress in pathophysiology of erectile dysfunction. *J Androl*. [Epub ahead of print]

Schulman SP, Becker LC, Kass DA et al. (2006) L-Arginine therapy in acute myocardial infarction: the vascular interaction with age in myocardial infarction (VINTAGE) MI randomized clinical trial. *Journal American Medical Association*. 295, 58-64

Rodriguez PC, Quiceno DG, Ochoa AC. (2007) L-arginine availability regulates T-lymphocyte cell-cycle progression. *Blood*. 1568-73

Spona J (2007) Arginin – die wiederentdeckte Aminosäure OM & Ernährung 119

Jung K, Petrowicz O (2008) L-Arginin und Folsäure bei Arteriosklerose. Ergebnisse einer prospektiven, multizentrischen Verzehrsstudie. In: *Perfusion* 21, 148-156

Salvatore P, Casamassimi A, Sommese L, et al. (2008) Detrimental effects of *Bartonella henselae* are counteracted by L-arginine and nitric oxide in human endothelial progenitor cells. *Proc Natl Acad Sci U S A* 105(27), 9427-32. [Abstract](#)

Venardos K, Zhang WZ, Lang C et al. (2009) Effect of peroxynitrite on endothelial L-arginine transport and metabolism. *Int J Biochem Cell Biol*. 41, 2522-2527

Bai Y, Sun L, Yang T, Sun K, Chen J, Hui R (2009) Increase in fasting vascular endothelial function after short-term oral L-arginine is effective when baseline flow-mediated dilatation is low: a meta-analysis of randomized controlled trials. *Am J Clin Nutr* 89,77-84

Seljeflot I, Nilsson BB, Westheim AS, Bratseth V, Arnesen H (2011) The L-arginine-asymmetric dimethylarginine ratio is strongly related to the severity of chronic heart failure. No effects of exercise training. In: *J. Cardiac. Fail.* 17, 135-142

Dong JY, Qui LQ, Zhang Z et al (2011) Effect of oral L-arginine supplementation on blood pressure: A meta-analysis of randomized, double blind, placebo-controlled trials. *Am Heart J*. 162, 959-965

Ast J, Cieślewicz AR, Korzeniowska K, et al. (2011) Supplementation with L-arginine does not influence arterial blood pressure in healthy people: a randomized, double blind, trial. *Eur Rev Med Pharmacol Sci* 15(12), 1375-84. [Abstract](#)

Schön T, Idh J, Westman A, et al. (2011) Effects of a food supplement rich in arginine in patients with smear positive pulmonary tuberculosis--a randomised trial. *Tuberculosis (Edinb)* 91(5), 370-7. [Abstract](#)

Dioguardi FS (2011) To give or not to give? Lessons from the arginine paradox. *J Nutrigenet Nutrigenomics* 4(2), 90-8. [Abstract](#)

Vadillo-Ortega F, Perichart-Perera O, Espino S, et al. (2011) Effect of supplementation during pregnancy with L-arginine and antioxidant vitamins in medical food on pre-eclampsia in high risk population: randomised controlled trial. *BMJ* d2901. [Abstract](#)

Forbes SC, Bell GJ (2011) The acute effects of a low and high dose of oral L-arginine supplementation in young active males at rest. [Controlled Clinical Trial, Journal Article, Randomized Controlled Trial] *Appl Physiol Nutr Metab* 36(3), 405-11. [Abstract](#)

Álvares TS, Meirelles CM, Bhambhani YN, et al. (2011) L-Arginine as a potential ergogenic aid in healthy subjects. *Sports Med* 41(3), 233-48. [Abstract](#)

Ventura G, Moinard C, Sinico F, et al. (2011) Evidence for a role of the ileum in the control of nitrogen homeostasis via the regulation of arginine metabolism. *Br J Nutr* 106(2), 227-36. [Abstract](#)

Dong JY, Qin LQ, Zhang Z, et al. (2011) Effect of oral L-arginine supplementation on blood pressure: a meta-analysis of randomized, double-blind, placebo-controlled trials. *Am Heart J* 162(6), 959-65. [Abstract](#)

Hord NG (2011) Dietary nitrates, nitrites, and cardiovascular disease. *Curr Atheroscler Rep*. 13(6), 484-492

Sydow K, Böger (2012) Reloaded: ADMA and oxidative stress are responsible for endothelial dysfunction in hyperhomocyst(e)inaemia: effects of L-arginine and B vitamins. In: *Cardiovasc. Res.*, doi: 10.1093/cvr/cvs205

Ströhle A, Hahn A (2012) Arginin bei Atherosklerose: Diätetische Maßnahmen bei Atherosklerose – Stellenwert von L-Arginin. In: *Deutsche Apotheker Zeitung Teil 1*, 20, 97-102 und Teil 2, 21, 74-83

Poeggeler B (2012) L-Arginin schützt vor nitrosativem Stress. In: *Perfusion* 25 (2), 40-43

Anderssohn M, Rosenberg M, Schwedhelm E, Zugck C, Lutz M, Lüneburg N, Frey N, Böger RH (2012) The L-Arginine-asymmetric dimethylarginine ratio is an independent predictor of mortality in dilated cardiomyopathy. In: *J. Card. Fail.* 18 (12), 904-911

Pokrovskii MV, Pokrovskaja TG, Gureev VV, et al. (2012) Correction of endothelial dysfunction by L-arginine under experimental pre-eclampsia conditions. *Eksp Klin Farmakol* 75(2), 14-6. [Abstract](#)

Liu B, Du H, Rutkowski R, et al. (2012) LAAT-1 is the lysosomal lysine/arginine transporter that maintains amino acid homeostasis. *Science* 337(6092), 351-4. [Abstract](#)

Jablecka A, Bogdański P, Balcer N, et al. (2012) The effect of oral L-arginine supplementation on fasting glucose, HbA1c, nitric oxide and total antioxidant status in diabetic patients with atherosclerotic peripheral arterial disease of lower extremities. *Eur Rev Med Pharmacol Sci* 16(3), 342-50. [Abstract](#)

Alizadeh M, Safaeiyan A, Ostadrahimi A, et al. (2012) Effect of L-arginine and selenium added to a hypocaloric diet enriched with legumes on cardiovascular disease risk factors in women with central obesity: a randomized, double-blind, placebo-controlled trial. *Ann Nutr Metab* 60(2), 157-68. [Abstract](#)

Leigh B, Desneves K, Rafferty J, et al. (2012) The effect of different doses of an arginine-containing supplement on the healing of pressure ulcers. *J Wound Care* 21(3), 150-6. [Abstract](#)

Alvares TS, Conte CA, Paschoalin VM, et al. (2012) Acute L-arginine supplementation increases muscle blood volume but not strength performance. *Appl Physiol Nutr Metab* 37(1), 115-26. [Abstract](#)

Luedecke P, Kelm M, Rassaf T (2012) Bypassing the endothelial L-arginine-nitric oxide pathway; effects of dietary nitrite and nitrate on cardiovascular function. D’Mello, J.P.F., *Amino acids in human nutrition and health*, 72-88

Poeggeler B (2012) L-Arginine schützt vor nitrosativem Stress. *Perfusion* 25(2), 40-43

Clemmensen C, Smajilovic S, Smith EP, Woods SC, Brauner-Osborne H, Seeley RJ, D’Alessio DA, Ryan KK. (2013) Oral L-arginine Stimulates GLP-1 Secretion to Improve Glucose Tolerance in Male Mice. *Endocrinology*, DOI: [10.1210/en.2013-1529](https://doi.org/10.1210/en.2013-1529)  
<http://www.sciencedaily.com/releases/2013/09/130909121954.htm>

Madigan M, Zuckerbraun B (2013) Therapeutic potential of the nitrite-generated NO pathway in vascular dysfunction. *Frontiers in Immunology* Vol. 4, Art. 174

Pizzarelli F, Maas R, Dattolo P, Tripepi G, Michelassi S, D’Arrigo G, Mieth M, Bandinelli S, Ferrucci L, Zoccali C (2013) Asymmetric dimethylarginine predicts survival in the elderly. In: *Age*, doi: 10.1007/s11357-013-9523-1 <http://www.ncbi.nlm.nih.gov/pubmed/23584888>

**“ADMA is a strong independent predictor of mortality in the older population, and L-arginine modifies the effect of ADMA on survival.”**

Deftereos S et al. (2014) Association of symmetric dimethylarginine levels with treadmill-stress-test-derived prognosticators. *Clin Biochem*. DOI: 10.1016/j.clinbiochem.2014.01.031  
[https://www.researchgate.net/publication/260195171\\_Association\\_of\\_Asymmetric\\_Dimethylarginine\\_Levels\\_with\\_Treadmill-Stress-Test-Derived\\_Prognosticators](https://www.researchgate.net/publication/260195171_Association_of_Asymmetric_Dimethylarginine_Levels_with_Treadmill-Stress-Test-Derived_Prognosticators)

Geiger R, Rieckmann JC, Wolf T et al (2016) L-Arginine Modulates T Cell Metabolism and Enhances Survival and Anti-tumor Activity. *Cell* 167(3), 829–842  
[http://www.univadis.de/external/exit/?r=http%253A%252F%252Fwww.cell.com%252Fcell%252Ffulltext%252FS0092-8674%252816%252931313-7&display\\_iframe=1&exit\\_strategy=0&new\\_window=1](http://www.univadis.de/external/exit/?r=http%253A%252F%252Fwww.cell.com%252Fcell%252Ffulltext%252FS0092-8674%252816%252931313-7&display_iframe=1&exit_strategy=0&new_window=1)

- **Methyl- und Argininzyklus** <http://xerlebnishaft.de/bildmethyl-arginin.pdf>
- **Erektionsstörungen** <http://www.gesundheits-lexikon.com/Sexualitaet-Partnerschaft-/Erektionsstoerungen/Orthomolekulare-Therapie-Vitalstoff-Therapie-.html>

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