PYCNOGENOL®

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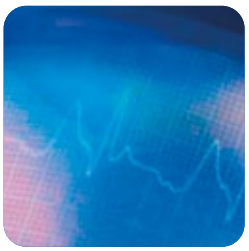

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1. Review Articles

Ref. 449	**A review on the efficacy of Pycnogenol® to alleviate climacteric symptoms by improving endothelial function and antioxidative status.** Rohdewald P Relief from Menopausal Symptoms by Non-hormonal Treatment with Pycnogenol® (French Maritime Pine Bark Extract). J Genit Syst & Disor 5:4, 2016
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Pycnogenol® increases anti-oxidative enzyme concentrations in the retina of rats, suggesting a lower risk for retinopathy and cataract formation.
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Phytother Res 15: 219-223, 2001

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CLINICAL STUDY: Pycnogenol® applied topically as patch soothes muscular pain.
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Moderate, diffuse, somatic muscular pain: effects of supplementation with a Pycnogenol® patch.
Minerva Ortopedica e Traumatologica 67(4): 170-176, 2016

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This pre-clinical study indicates that Pycnogenol® inhibits the reduction of inflammatory response in CSE-stimulated NCI-H292 cells and a COPD mouse model via the Erk-sp1 pathway. Pycnogenol® is suggested to have potential for improving chronic obstructive pulmonary disorder symptoms.
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J Ethnopharmacol 194: 412-420, 2016

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CLINICAL STUDY: Pycnogenol® decreases symptoms of common cold and shorten its course also preventing some complications.
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Panminvera Med 56: 301-308, 2014

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The Effect of Oral Contraceptives Combined With Pycnogenol (Pinus Pinaster) On Aromatase and VEGF Expression in the Eutopic Endometrium of Endometriosis Patients.
Gynecol Obstet 4:2, 2014

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CLINICAL STUDY: Pycnogenol® significantly lowers the inflammatory marker CRP in hypertensive patients with chronic kidney disease.
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CLINICAL STUDY: Pycnogenol® inhibits the generation of COX-2 and 5-LOX enyzmes in pharmacological investigations of inflammatory processes in humans.
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The anti-inflammatory pharmacology of Pycnogenol® in humans involves COX-2 and 5-LOX mRNA expression in leukocytes.
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CLINICAL STUDY: Pycnogenol® significantly lowers the inflammatory marker CRP in patients with osteoarthritis, thus demonstrating its anti-inflammatory potency.
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Pycnogenol® *in vitro* study provides evidence of chemoprevention.
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Pycnogenol® reduces Talc-induced Neoplastic Transformation in Human Ovarian Cell Cultures.
Phytother Res 21: 579-586, 2007

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CLINICAL STUDY: Pycnogenol® inhibits key triggers involved in the initiation of an inflammation in a pharmacological investigation in humans.
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Inhibition of NF-kappaB activation and MMP-9 secretion by plasma of human volunteers after ingestion of maritime pine bark extract (Pycnogenol®).
J Inflamm 3: 1-6, 2006

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Pycnogenol® protects against ionizing radiation as shown in the intestinal mucosa of rats exposed to X-rays.
Phytother Res 20: 676-679, 2006

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Pycnogenol® non-selectively inhibits the activity of enzymes involved in pain sensation during inflammation.
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Therapeutic efficacy of Pycnogenol® in experimental inflammatory bowel diseases.
Phytother Res 18: 1027-1028, 2004

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Matrix metalloproteinases, enzymes involved in connective tissue destruction, are potently inhibited by Pycnogenol® as well as its metabolites found in blood of humans.
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Antioxidant activity and inhibition of matrix metalloproteinases by metabolites of maritime pine bark extract (Pycnogenol®).
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Ref. 074

CLINICAL STUDY: Pycnogenol® dose-dependently inhibits UV-induced erythema in humans. This effect was found to be associated to the anti-inflammatory potency of Pycnogenol®.
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J Free Radic Biol Med 30: 154-160, 2001

Ref. 068

Pycnogenol® inhibits several mechanisms related to recruitment of leukocytes to tissue which results in anti-inflammatory activity.
Peng Q, Wei Z, Lau BHS
Pycnogenol® inhibits tumor necrosis factor-α-induced nuclear factor kappa B activation and adhesion molecule expression in human vascular endothelial cells.
Cell Mol Life Sci 57: 834-841, 2000

Ref. 019

Pycnogenol® produces anti-inflammatory and anti-oedema effects in two different models. Topical application of Pycnogenol® gel protects the skin against UV radiation.
Blazso G, Gabor M, Rohdewald P
Antiinflammatory activities of procyanidin containing extracts from *Pinus pinaster* Ait. after oral and cutaneous application.
Pharmazie 52: 380-382, 1997

Ref. 010

Pycnogenol® scavenges superoxide radicals *in vitro* and inhibits oedema *in vivo*. The anti-inflammatory and free radical scavenging activities are closely correlated.
Blazso G, Gabor M, Sibbel R, Rohdewald P
Anti-inflammatory and superoxide radical scavenging activities of a procyanidins containing extract from the bark of *Pinus pinaster* sol. and its fractions.
Pharm Parmacol Lett 3: 217-220, 1994

7. Joint Health

Ref. 440

CLINICAL STUDY: Supplementation with Pycnogenol® is demonstrated to lead to accumulation of constituents and metabolites in knee synovial fluid in osteoarthritis patients, representing the basis for symptom improvement.
Mülek M, Seefried L, Genest F, Högger P
Distribution of constituents and metabolites of maritme pine bark extract (Pycnogenol®) into serum, blood cells and synovial fluid of patients with severe osteoarthritis: a randomized controlled trial.
Nutrients 9, 443; doi: 10.3390/nu9050443, 2017

Ref. 330

Pycnogenol® helps prevent bone demineralization in an osteoporosis animal model.
Takano T, Kozai Y, Kawamata R, Wakao H, Sakurai T, Kashima I
Inhibitory effect of maritime pine bark extract (Pycnogenol®) on deterioration of bone structure in the distal femoral epiphysis of ovariectomized mice.
Oral Radiol 27: 8-16, 2011

Ref. 272

CLINICAL STUDY: Pycnogenol® inhibits the generation of COX-2 and 5-LOX enyzmes in pharmacological investigations of inflammatory processes in humans.
Canali R, Comitato R, Schonlau F, Virgili F
The anti-inflammatory pharmacology of Pycnogenol® in humans involves COX-2 and 5-LOX mRNA expression in leukocytes.
Int Immunopharmacol 9: 1145-1149, 2009

Ref. 250

CLINICAL STUDY: Pycnogenol® significantly lowers the inflammatory marker CRP in patients with osteoarthritis, thus demonstrating its anti-inflammatory potency.
Belcaro G, Cesarone MR, Errichi S, Zulli C, Errichi BM, Vinciguerra G, Ledda A, Di Renzo A, Stuard S, Dugall M, Pellegrini L, Gizzi G, Ippolito E, Ricci A, Cacchio M, Cipollone G, Ruffini I, Fano F, Hosoi M, Rohdewald P
Variations in C-reactive protein, plasma free radicals and fibrinogen values in patients with osteoarthritis treated with Pycnogenol®.
Redox Rep 13: 271-276, 2008

Ref. 249

CLINICAL STUDY: Pycnogenol® improves flexibility of osteoarthritic joints, lowers pain and allows patients to decrease their pain medication.
Cisar P, Jany R, Waczulikova I, Sumegova K, Muchova J, Vojtassak J, Durackova Z, Lisy M, Rohdewald P
Effect of pine bark extract (Pycnogenol®) on symptoms of knee osteoarthritis.
Phytother Res 22: 1087-1092, 2008

Ref. 223

CLINICAL STUDY: Pycnogenol® improves pain and mobility in osteoarthritis in 156 patients.
Belcaro G, Cesarone MR, Errichi S, Zulli C, Errichi BM, Vinciguerra G, Ledda A, Di Renzo A, Stuard S, Dugall M, Pellegrini L, Errichi S, Gizzi G, Ippolito E, Ricci A, Cacchio M, Cipollone G, Ruffini I, Fano F, Hosoi M, Rohdewald P
Treatment of osteoarthritis with Pycnogenol®. The SVOS (San Valentino Osteo-Arthrosis Study). Evaluation of Signs, Symptoms, Physical Performance and Vascular Aspects.
Phytother Res 22: 518-523, 2008

Ref. 188

CLINICAL STUDY: In osteoarthritis Pycnogenol® reduces pain and joint stiffness and decreases the required NSAID medication.
Farid R, Mirfeizi Z, Mirheidari M, Rezaieyazdi Z, Mansouri H, Esmaelli H, Zibadi S, Rohdewald P, Watson RR
Pycnogenol® supplementation reduces pain and stiffness and improves physical function in adults with knee osteoarthritis.
Nutr Res 27: 692-697, 2007

Ref. 185 CLINICAL STUDY: Pycnogenol® inhibits key triggers involved in the initiation of an inflammation in a pharmacological investigation in humans.
Grimm T, Chovanova Z, Muchova J, Sumegova K, Liptakova A, Durackova Z, Högger P
Inhibition of NF-kappaB activation and MMP-9 secretion by plasma of human volunteers after ingestion of maritime pine bark extract (Pycnogenol®).
J Inflamm 3: 1-6, 2006

Ref. 176 Pycnogenol® non-selectively inhibits the activity of enzymes involved in pain sensation during inflammation in humans.
Schäfer A, Chovanová Z, Muchová J, Sumegová K, Liptáková A, Duracková Z, Högger P
Inhibition of COX-1 and COX-2 activity by plasma of human volunteers after ingestion of French maritime pine bark extract (Pycnogenol®).
Biomed Pharmacother 60: 5-9, 2005

Ref. 107 Pycnogenol® as well as its metabolites found in blood of humans potently inhibit matrix metalloproteinases, enzymes involved in cartilage destruction.
Grimm T, Schäfer A, Högger P
Antioxidant activity and inhibition of matrix metalloproteinases by metabolites of maritime pine bark extract (Pycnogenol®).
J Free Radic Biol Med 36: 811-822, 2004

8. Allergies & Asthma

Ref. 452

Pycnogenol® is shown in preclinical research to help manage allergic rhinitis.
Günel C, Demirci B, Eryilmaz A, Yilmaz M, Meteoglu I, Ömürlü IK, Basal Y
Inhibitory Effect of Pycnogenol® on Airway Inflammation in Ovalbumin-Induced Allergic Rhinitis.
Balkan Me J 33: 620-626, 2016

Ref. 447

This pre-clinical study indicates that Pycnogenol® inhibits the reduction of inflammatory response in CSE-stimulated NCI-H292 cells and a COPD mouse model via the Erk-sp1 pathway. Pycnogenol® is suggested to have potential for improving chronic obstructive pulmonary disorder symptoms.
Shin N-R, Ryu H-W, Ko J-W, Park J-W, Kwon O-K, Oh S-R, Kim J-C, Shin I-S, Ahn K-S
A standardized bark extract of Pinus pinaster Aiton (Pycnogenol®) attenuated chronic obstructive pulmonary disease via Erk-sp 1 signaling pathway.
J Ethnopharmacol 194: 412-420, 2016

Ref. 444

Review comprising Pycnogenol® virtues for allergic rhinitis (hayfever).
Ross SM
Allergic Rhinitis. A proprietary extract of Pinus pinaster Aiton (Pycnogenol) is found to improve the symptoms associated with allergic rhinitis.
Hollist Nurs Pract 30: 301-304, 2016

Ref. 441

CLINICAL STUDY: Research finds Pycnogenol® effective for allergies.
Belcaro G, Feragalli B, Hosoi M, Dugall M, Cornelli U
Pycnogenol® reduces the wheal and flare response to histamine in normal subjects.
Minerva Biotecnologica 28(2): 114-119, 2016

Ref. 380

Pycnogenol® inhibits asthma in rats.
Shin I-S, Shin N-R, Jeon C-M, Hong J-M, Kwon O-K, Kim J-C, O S-R, Hahn K-W, A K-S
Inhibitory effects of Pycnogenol® (French maritime pine bark extract) on airway inflammation in ovalbumin-induced allergic asthma.
Food Chem Toxicol 62: 681-686, 2013

Ref. 344

CLINICAL STUDY: Pycnogenol® helps to deal with allergic asthma symptoms and allows for lowering medication dosage.
Belcaro G, Luzzi R, Cesinaro Di Rocco P, Cesarone MR, Dugall M, Feragalli B, Errichi BM, Ippolito E, Grossi MG, Hosoi M, Errichi S, Cornelli U, Ledda A, Gizzi G
Pycnogenol® improvements in asthma management.
Panminerva Med 53: 57-64, 2011

Ref. 287

CLINICAL STUDY: Pycnogenol® taken prior to the onset of allergen season lowers hay-fever symptoms and pollen-specific antibodies in allergic people.
Wilson D, Evans M, Guthrie N, Sharma, P, Baisley J, Schönlau F, Burki C
A randomized, double blind, placebo controlled exploratory study to evaluate the potential of Pycnogenol® for improving allergic rhinitis symptoms.
Phytother Res 24: 1115-1119, 2010

Ref. 270

In animal experiments Pycnogenol® suppressed an immediate immunoglobulin type E mediated allergic response. This suggests that Pycnogenol® would have general anti-allergic effectiveness.
Choi YH, Yan GH
Pycnogenol® inhibits immunoglobulin E-mediated allergic response in mast cells.
Phytother Res 23: 1691-1695, 2009

Ref. 149

CLINICAL STUDY: Pycnogenol® improves pulmonary functions and reduces symptoms of asthma in children.
Lau BHS, Riesen SK, Truong KP, Lau EW, Rohdewald P, Barreta RA
Pycnogenol® as an adjunct in the management of childhood asthma.
J Asthma 41: 825-832, 2004

Ref. 089

Pycnogenol® blocks release of histamine from mast cells *in vitro* to the same extent as the antiasthmatic drug DNCG.
Sharma SC, Sharma S, Gulati OP
Pycnogenol® inhibits the release of histamine from mast cells.
Phytother Res 17: 66-69, 2003

Ref. 077

CLINICAL STUDY: Pycnogenol® reduces asthma symptoms and improves lung function of asthmatic patients in a placebo-controlled, cross-over study.
Hosseini S, Pishnamazi S, Sadrzadeh MH, Farid F, Farid R, Watson RR
Pycnogenol® in the management of asthma.
J Med Food 4: 201-209, 2001

9. Women's Health, Fertility & the Reproductive System

Ref. 453

CLINICAL STUDY: Further to alleviating menopausal symptoms, Pycnogenol® significantly improves blood sugar and -lipids, and supports healthy blood pressure, CRP- and homocysteine values.
Luzzi R, Belcaro G, Hosoi M, Feragalli B, Cornelli U, Dugall M, Ledda A
Normalization of cardiovascular risk factors in peri-menopausal women with Pycnogenol®.
Minerva Ginecol 69: 29-34, 2017

Ref. 449

A review on the efficacy of Pycnogenol® to alleviate climacteric symptoms by improving endothelial function and antioxidative status.
Rohdewald P
Relief from Menopausal Symptoms by Non-hormonal Treatment with Pycnogenol® (French Maritime Pine Bark Extract).
J Genit Syst & Disor 5: 4, 2016

Ref. 423

Pycnogenol® inhibits bone demineralisation in preclinical menopause research.
Huang G, Wu J, Wang S, Wei Y, Chen F, Chen J, Shi J, Xia J
Pycnogenol® treatment inhibits bone mineral density loss and trabecular deterioration in ovariectomized rats.
Int J Clin Exp Med 8(79): 10893-10901, 2015

Ref. 400

CLINICAL STUDY: In combination with low-dose oral contraceptives Pycnogenol® effectively decreases pain and number of bleeding days.
Maia H, Haddad C, Casoy J
The effect of Pycnogenol® on patients with dysmenorrhea using low-dose oral contraceptives.
Int J Women's Health 6: 1019-1022, 2014

Ref. 392

CLINICAL STUDY: The use of Pycnogenol® improves signs and symptoms of postpartum varicose veins and venous function. Veins regain shape faster.
Belcaro G, Dugall M, Luzzi R, Ippolito E, Cesarone MR
Postpartum Varicose Veins: Supplementation with Pycnogenol® or Elastic Compression - A 12-Month Follow-Up.
Int J Angiol DOI 10.1055/s-0033-1363784, 2014

Ref. 389

CLINICAL STUDY: The oral administration of Pycnogenol® combined with daily sunscreen application should be added as an adjuvant to other treatments of melasma.
Campos V
Oral administration of Pycnogenol® associated with sunscreen improve clinical symtpoms of melasma.
J Am Acad Dermatol AB19 (P8471), 2014

Ref. 387

CLINICAL STUDY: The combination of oral contraceptives with Pycnogenol® shows a positive synergetic effect on the eutopic endometrium of endometriosis patients.
Maia H, Haddad C, Pinheiro N, Casoy J
The Effect of Oral Contraceptives Combined With Pycnogenol (Pinus Pinaster) On Aromatase and VEGF Expression in the Eutopic Endometrium of Endometriosis Patients.
Gynecol Obstet 4:2, 2014

Ref. 383

CLINICAL STUDY: In the months after pregnancy, Pycnogenol® appears to positively affect hemorrhoid signs and symptoms.
Belcaro G, Gizzi G, Pellegrini M, Dugall M, Luzzi R, Corsi M, Ippolito E, Ricci A, Cesarone MR, Ledda A, Bottari A, Errichi BM
Pycnogenol® in postpartum symptomatic hemorrhoids.
Minerva Ginecologica 66(1): 77-84, 2014

Ref. 378

CLINICAL STUDY: Pycnogenol® taken with oral contraceptives alleviates endometriosis related pain.
Maia H, Haddad C, Casoy J
Combining oral contraceptives with a natural nuclear factor-kappa B inhibitor for the treatment of endometriosis-related pain.
Int J Womens Health 6: 35-39, 2014

Ref. 376

CLINICAL STUDY: Pycnogenol® significantly improved peri-menopausal symptoms at relatively low daily dosage of 60 mg and was demonstrated to not interfere with sexual hormone levels.
Kohama T, Negami M
Effect of low-dose French maritime pine bark extract on climacteric syndrome in 170 perimenopausal women.
J Reprod Med 58(1-2): 39-46, 2013

Ref. 336

CLINICAL STUDY: Pycnogenol® significantly contributes to reduce signs and symptoms related to the menopausal transition period.
Errichi S, Bottari A, Belcaro G, Cesarone MR, Hosoi M, Cornelli U, Dugall M, Ledda A, Feragalli B
Supplementation with Pycnogenol® improves signs and symptoms of menopausal transition.
Panminerva Med 53: 65-70, 2011

Ref. 220

CLINICAL STUDY: Pycnogenol® significantly lowers menstrual pain and the quantity of required analgesic medication in a multi-center study with four hospitals in Japan.
Suzuki N, Uebaba K, Kohama T, Moniwa N, Kanayama N, Koike K
French Maritime Pine Bark Extract Significantly Lowers the Requirement for Analgesic Medication in Dysmenorrhea. A multicenter, randomized, double-blind, placebo-controlled study.
J Reprod Med 53: 338-346, 2008

Ref. 219

CLINICAL STUDY: Pycnogenol® reduces pain from endometriosis, shows less side effects than hormonal treatment and enabled some women to conceive.
Kohama T, Herai K, Inoue M
Effect of French Martime Pine Bark Extract on endometriosis as compared with Leuprorelin acetate.
J Reprod Med 52: 703-708, 2007

Ref. 187

CLINICAL STUDY: Pycnogenol® improves a broad range of climacteric symptoms in a study with 200 menopausal women.
Yang H-M, Liao M-F, Zhu SY, Liao M-N, Rohdewald P
A randomized, double-blind, placebo-controlled trial on the effect of Pycnogenol® on the climacteric syndrome in peri-menopausal women.
Acta Obstet Gynecol Scand 86: 978-985, 2007

Ref. 174

CLINICAL STUDY: Pycnogenol® reduces low-back pain in late period of pregnancy.
Kohama T, Inoue M
Pycnogenol® Alleviates Pain Associated with Pregnancy.
Phytother Res 20: 232-234, 2006

Ref. 145

CLINICAL STUDY: Pycnogenol® produces analgesic effect in gynaecological disorders such as endometriosis and dysmenorrhea. It reduces menstrual cramps, abdominal pain and tenderness.
Kohama T, Suzuki N, Ohno S, Inoue M
Analgesic efficacy of French maritime pine bark extract in dysmenorrhea. An open clinical trial.
J Reprod Med 49: 828-832, 2004

Ref. 091

CLINICAL STUDY: After treatment with Pycnogenol® increase in functionally normal sperm may allow infertile couples to forgo *in vitro* fertilization.
Roseff SJ
Improvement in sperm quality and function with French maritime pine tree bark extract.
J Reprod Med 47: 821-824, 2002

Ref. 046 CLINICAL STUDY: Pycnogenol® improves the morphology of spermatozoa. The percentage of non-deformed sperms in sub-fertile men was increased by 99% after supplementation with Pycnogenol®.
Roseff S, Gulati O
Improvement of sperm quality by Pycnogenol®.
Eur Bull Drug Res 7: 33-36, 1999

Ref. 045 CLINICAL STUDY: Pycnogenol® helps in gynaecological disorders such as endometriosis and dysmenorrhea. It reduces menstrual cramps, abdominal pain and tenderness.
Kohama T, Suzuki N
The treatment of gynaecological disorders with Pycnogenol®.
Eur Bull Drug Res 7: 30-32, 1999

10. Sport & Endurance

Ref. 428

In preclinical research Pycnogenol® is suggested to preserve synaptic function subsequent to controlled cortical impact.
Norris CM, Sompol P, Roberts KN, Ansari M, Scheff SW
Pycnogenol protects CA3-CA1 synaptic function in a rat model of traumatic brain injury.
Experimental Neurology 276: 5-12, 2016

Ref. 368

CLINICAL STUDY: Pycnogenol® reduces oxidative stress and improves physical performance in athletes.
Vinciguerra G, Belcaro G, Bonanni E, Cesarone MR, Ledda A, Hosoi M, Dugall M, Cacchio M, Cornelli U
Evaluation of the effects of supplementation with Pycnogenol® on fitness in normal subjects with the Army Physical Fitness Test and in performances of athletes in the 100-minute triathlon.
J sports Med Phys Fitness 53(6): 644-654, 2013

Ref. 230

CLINICAL STUDY: Pycnogenol® consumption increases vasodilatation by 42% in young healthy men, which warrants sufficient blood and oxygen supply to performing muscle.
Nishioka K, Hidaka T, Nakamura S, Umemura T, Jitsuiki D, Soga J, Goto C, Chayama K, Yoshizumi M, Higashi Y
Pycnogenol®, French Maritime Pine Bark Extract, augments endothelium-dependent vasodilation in humans.
Hypertens Res 30: 775-780, 2007

Ref. 189

CLINICAL STUDY: Pycnogenol® reduces muscular pain and cramps in athletes and in patients with vascular problems or poor blood circulation of the legs.
Vinciguerra G, Belcaro G, Cesarone MR, Rohdewald P, Stuard S, Ricci A, Di Renzo A, Hosoi M, Dugall M, Ledda A, Cacchio M, Acerbi G, Fano F
Cramps and muscular pain: prevention with Pycnogenol® in normal subjects, venous patients, athletes, claudicants and in diabetic microangiopathy.
Angiology 57: 331-339, 2006

Ref. 044

CLINICAL STUDY: Pycnogenol® increases exercise endurance in recreational athletes by 21% on a treadmill.
Pavlovic P
Improved endurance by use of antioxidants.
Eur Bull Drug Res 7: 26-29, 1999

11. Cognitive Function

Ref. 431

CLINICAL STUDY: Pycnogenol® supplementation for 12 months improves cognition and quenches oxidative stress in normal subjects aged 55 to 70 years.
Belcaro G, Dugall M, Ippolito E, Hu S, Saggino A, Feragalli B
The COFU3 Study: Improvement in cognitive function, attention, mental performance with Pycnogenol® in healthy subjects (55-70) with high oxidative stress.
J Neurosurg Sci 59: 437-446, 2015

Ref. 428

In preclinical research Pycnogenol® is suggested to preserve synaptic function subsequent to controlled cortical impact.
Norris CM, Sompol P, Roberts KN, Ansari M, Scheff SW
Pycnogenol protects CA3-CA1 synaptic function in a rat model of traumatic brain injury.
Experimental Neurology 276: 5-12, 2016

Ref. 424

Pycnogenol® counteracts inflammatory situations of brain microglia cells in pre-clinical study.
Fan B, Dun S-H, Gu J-Q, Guo Y, Ikuyama S
Pycnogenol attenuates the release of proinflammatory cytokines and expression of perilipin 2 in lipopolysaccharides-stimulated microglia in part via inhibition of NF-κB and AP-1 activation.
PLOS ONE 10(9): e0137837.doi:10.1371/journal, 2015

Ref. 419

Pycnogenol® research with double-blind, placebo-controlled protocol.
Stough C, Pase MP
Improving cognition in the elderly with nutritional supplements.
Current Directions in Psychological Science 24: 177-183, 2015

Ref. 407

Pycnogenol® supplementation for 12 weeks appears to improve cognitive function and oxidative stress in healthy professionals.
Belcaro G, Luzzi R, Dugall M, Ipppolito E, Saggino A
Pycnogenol® improves cognitive function, attention, mental performance and specific professional skills in healthy professionals aged 35-55.
J Neurosurg Sci 58: 239-248, 2014

Ref. 345

CLINICAL STUDY: Pycnogenol® significantly improves memory, cognition, attention and mood in healthy students.
Luzzi R, Belcaro G, Zulli C, Cesarone MR, Cornelli U, Dugall M, Hosoi M, Feragalli B
Pycnogenol® supplementation improves cognitive function, attention and mental performance in students.
Panminerva Med 53: 75-82, 2011

Ref. 241

CLINICAL STUDY: Pycnogenol® significantly improves memory in 101 senior citizens with memory deficits and saves their poly-unsaturated fatty acids, such as from neuronal membranes, from oxidative destruction.
Ryan J, Croft K, Wesnes K, Stough C
An examination of the effects of the antioxidant Pycnogenol® on cognitive performance, serum lipid profile, endocrinological and oxidative stress biomarkers in an elderly population.
J Psychopharmacol 22: 553-562, 2008

Ref. 231

CLINICAL STUDY: Pycnogenol® lowers stress-hormones in children with ADHD.
Dvorakova M, Jezova D, Blazicek P, Trebaticka J, Skodacek I, Suba J, Waczulikova I, Rohdewald P, Durackova Z
Urinary catecholamines in children with attention deficit hyperactivity disorder (ADHD): modulation by a polyphenolic extract from pine bark (Pycnogenol®).
Nutr Neurosci 10: 151-157, 2007

Ref. 205

CLINICAL STUDY: Pycnogenol® improves antioxidant status in children with Attention Deficit Hyperactivity Disorder (ADHD).
Dvorakova M, Sivonova M, Trebaticka J, Skodacek I, Waczulikova I, Muchova J, Durackova Z
Research Article: The effect of polyphenolic extract from pine bark, Pycnogenol®, on the level of glutathione in children suffering from attention deficit hyperactivity disorder (ADHD).
Redox Rep 11: 163-172, 2006

Ref. 204

CLINICAL STUDY: Pycnogenol® protects DNA against oxidation in children with Attention Deficit Hyperactivity Disorder (ADHD).
Chovanova Z, Muchova J, Sivonova M, Dvorakova M, Zitnanova I, Waczulikova I, Trebaticka J, Skodacek I, Durackova Z
Effect of polyphenolic extract, Pycnogenol®, on the level of 8-oxoguanine in children suffering from attention deficit/hyperactivity disorder.
Free Radic Res 40: 1003-1010, 2006

Ref. 190

CLINICAL STUDY: Pycnogenol® relieves hyperactivity and improves attention in children with ADHD in a double-blind placebo controlled study.
Trebaticka J, Kopasova S, Hradecna Z, Cinovsky K, Skodacek I, Suba J, Muchova J, Zitnanova I, Waczulikova I, Rohdewald P, Durackova Z
Treatment of ADHD with French maritime pine bark extract, Pycnogenol®.
Eur Child Adolesc Psychiatry 15: 329-335, 2006

Ref. 083

Neuronal apoptosis (early cell death) is induced by the amyloid-β-peptide in the brain of Alzheimer patients. *In vitro* experiments demonstrated an inhibition of cell death of neurons by Pycnogenol®.
Peng QL, Buz'Zard AR, Lau BHS
Pycnogenol® protects neurones from amyloid β peptide-induced apoptosis.
Brain Res Mol Brain Res 104: 55-65, 2002

Ref. 069

Pycnogenol® produces significant reduction in vascular damage caused by β-amyloid protein. β-amyloidosis is one of the neuropathological hallmarks of Alzheimer's disease (AD). This explains the role of Pycnogenol® in reducing the risk of AD.
Liu F, Lau BHS, Peng Q, Shah V
Pycnogenol® protects vascular endothelial cells from β-amyloid-induced injury.
Biol Pharm Bull 23: 735-737, 2000

Ref. 052

Pycnogenol® improves learning impairment and loss of memory, common symptoms of the ageing process.
Liu F, Zhang Y, Lau BHS
Pycnogenol® improves learning impairment and memory deficit in senescence-accelerated mice.
J Anti Aging Med 2: 349-355, 1999

Ref. 048

Pycnogenol® is recommended for treatment of Attention Deficit Disorder.
Hanley JL
Attention Deficit Disorder.
Impact Communications Inc., Green Bay, WI, USA, 17-19, 1999

Ref. 047

CLINICAL STUDY: Positive experience with Pycnogenol® in treating ADHD is mentioned in this letter to the Editor.
Heimann SW
Pycnogenol® for ADHD?
J Am Acad Child Adolesc Psychiatry 38: 357-358, 1999

12. Skin Care

Ref. 439

Pycnogenol® shows pigmentation reduction in human skin.
Leis Ayres E, Costa A, Eberlin S, Platto Clerici S
Ex vivo study for evaluating the whitening activity of Pycnogenol® after exposure to ultraviolet and infrared radiations, and visible lights.
Surg Cosmet Dermatol 7: 303-307, 2015

Ref. 430

CLINICAL STUDY: This article reviews earlier clinical Pycnogenol® research of the group, identifying improved skin elasticity and hydration, highlighting new findings on oral Pycnogenol® supporting fairer skin complexion, as well as improved skin barrier function.
Grether-Beck S, Marini A, Jaenicke T, Krutmann J
French Maritime Pine Bark Extract (Pycnogenol®) Effects on Human Skin: Clinical and Molecular Evidence.
Skin Pharmacol Physiol 29: 13-17, 2016

Ref. 429

CLINICAL STUDY: The study describes significant reduction of skin pigmentation with Pycnogenol® supplementation, taken in addition to the use of sun-screens, in 31 women with melasma.
Scharf Pinto CA, Zuchi Delfes MF, Montanheiro dos Reis L, Garbers LE, Vieira da Rosa Passos PC, Skusa de Torre D
The use of Pycnogenol® in the treatment of melasma.
Surg Cosmet Dermatol 7: 218-222, 2015

Ref. 414

CLINICAL STUDY: Research demonstrates that Pycnogenol® in combination with pomegranate extract brightens skin and helps decrease blotches in European and and Asian women.
De Schuyteneer A, Hamon I, Rohdewald P
A formulation of extracts from pine bark and pomegranate improves complexion after oral intake.
Esperienze Dermatologiche 17: 7-11, 2015

Ref. 389

CLINICAL STUDY: The oral administration of Pycnogenol® combined with daily sunscreen application should be added as an adjuvant to other treatments of melasma.
Campos V
Oral administration of Pycnogenol® associated with sunscreen improve clinical symtpoms of melasma.
J Am Acad Dermatol AB19 (P8471), 2014

Ref. 388

CLINICAL STUDY: Most common clinical aspects of psoriasis could be improved by Pycnogenol® supplementation.
Belcaro G, Luzzi R, Hu S, Cesarone MR, Dugall M, Ippolito E, Corsi M, Caporale S
Improvement in signs and symptoms in psoriasis patients with Pycnogenol® supplementation.
Panminerva Med 56: 41-48, 2014

Ref. 348

CLINICAL STUDY: Pycnogenol® increases women's skin elasticity and hydration which coincides with significantly new collagen and hyaluronic acid synthesis in their skin.
Marini A, Grether-Beck S, Jaenicke T, Weber M, Burki C, Formann P, Brenden H, Schönlau F, Krutmann J
Pycnogenol® Effects on Skin Elasticity and Hydration Coincide with Increased Gene Expressions of Collagen Type I and Hyaluronic Acid Synthase in Women.
Skin Pharmacol Physiol 25: 86-92, 2012

Ref. 243

Pycnogenol® inhibits pigment formation in skin cells four times more potently than kojic acid, a compound commonly used in skin-whitening products.
Kim YJ, Kang KS, Yokozawa T
The anti-melanogenic effect of Pycnogenol® by its anti-oxidative actions.
Food and Chemical Toxicol 46: 2466-2471, 2008

Ref. 211

Beneficial effects of Pycnogenol® in wrinkles- A review article.
Rona C, Vailati F, Berardesca E
The cosmetic treatment of wrinkles.
J Cosmet Dermatol 3: 26-34, 2004

Ref. 195

CLINICAL STUDY: Pycnogenol® accelerates healing of diabetic ulcers in humans.
Belcaro G, Cesarone MR, Errichi BM, Ledda A, Di Renzo A, Stuard S, Dugall M, Pellegrini L, Gizzi G, Rohdewald P, Ippolito E, Ricci A, Cacchio M, Cipollone G, Ruffini I, Fano F, Hosoi M
Diabetic Ulcers: Microcirculatory Improvement and Faster Healing with Pycnogenol®.
Clin Appl Thromb Hemost 12: 318-323, 2006

Ref. 193

Oral administration of Pycnogenol® is able to delay and to reduce skin cancer following UV radiation.
Kyriazi M, Yova D, Rallis M, Lima A
Cancer chemopreventive effects of Pinus maritima bark extract on ultraviolet radiation and ultraviolet radiation-7,12 dimethylbenz(a) anthracene induced skin carcinogenesis of hairless mice.
Cancer Lett 237: 234-241, 2006

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Pycnogenol® improves learning impairment and memory deficit in senescence-accelerated mice.
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Ophthalmic Res 31: 407-415, 1999

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17. Analytics, Bio-Availability & Metabolism

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Profiling a gut microbiota-generated catechin metabolite's fate in human blood cells using a metabolomic approach.
J Pharm Biomed Anal 114: 71-81, 2015

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Report of comparison of various sample preparation methods used for detection and quantification of plant-derived compounds in human blood cells after ingesting Pycnogenol®.
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Pycnogenol® acts as a promising natural compound for the prevention of fatty liver disease or atherosclerosis.
Ikuyama S, Fan B, Gu J-Q, Mukae K, Watanabe H
Molecular mechanism of intracellular lipid accumulation: Suppressive effect of Pycnogenol® in liver cells.
FFHD 3(9): 252-264, 2013

Ref. 372

The metabolites developing in humans after consumption of Pycnogenol® are actively internalised by red blood cells, leukocytes, endothelial cells and neurons via the GLUT1 transporter. The tissue-specific accumulation represents the common denominator for Pycnogenol® principal modes of action, as related to inflammation control, endothelial function, and cognition benefits.
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PLOS ONE 8(4): 1-10, 2013

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Kurlbaum M, Högger P
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CLINICAL STUDY: This study presents the appearance of Pycnogenol® constituents and metabolites in blood after oral administration in humans.
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Single and multiple dose pharmacokinetics of maritime pine bark extract (Pycnogenol®) after oral administration to healthy volunteers.
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Evidence of percutaneous absorption of Pycnogenol® in human skin.
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In vitro Percutaneous Absorption of Pine Bark Extract (Pycnogenol®) in Human Skin.
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Ferulic acid excretion as a marker of consumption of a French maritime pine (Pinus maritima) bark extract.
J Free Radic Biol Med 28: 1249-1256, 2000

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Grosse-Düweler K, Rohdewald P
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Pharmazie 55: 364-368, 2000

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Eur Bull Drug Res 7: 5-7, 1999

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