

Biological Activities for Extracts of Avenca (*Adiantum capillus-veneris*)

Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Entire Plant India	Antimplantation Effect	Chromatographic fraction ETOH(95%)Ext Pet ether Ext	GI Rat(pregnant) GI Rat(pregnant) IP Rat(pregnant) IP Rat(pregnant) IP Rat(pregnant) IP Rat(pregnant) IP Rat(pregnant)	100.0 mg/kg 30.0 mg/kg 10.0 mg/kg 15.0 mg/kg 5.0 mg/kg 100.0 mg/kg 100.0 mg/kg	Active Active Active Active Active Active Active	78% activity was reported. 78% activity was reported. 78% activity was reported. 78% activity was reported. 78% activity was reported. Not Stated. 83% activity is reported.	T11618
Entire Plant India	Antimplantation Effect	Pet ether Ext	GI Rat(pregnant)	Not Stated	Active		T09075
Aerial Parts Belgium	Antihyperglycemic Activity	H2O Ext	Oral Mouse	25.0 mg/kg	Active	vs. glucose-induced hyperglycemia.	K27342
Aerial Parts Europe	Antihyperglycemic Activity	Decoction ETOH(80%)Ext	Oral Mouse Male Oral Mouse Male	25.0 gm/kg 25.0 gm/kg	Active Inactive	vs. glucose-induced hyperglycemia. vs. glucose-induced hyperglycemia.	K20532
Entire Plant India	Hypoglycemic Activity	H2O Ext	Oral Rabbit	10.0 mg/kg	Weak Activity		A14379
Aerial Parts Iraq	Antibacterial Activity	MEOH Ext	Agar Plate	0.5 mg/ml 1.0 mg/ml 1.0 mg/ml 2.0 mg/ml 2.0 mg/ml	Active Active Active Active Active	<i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Staphylococcus aureus</i> <i>Proteus vulgaris</i> <i>Pseudomonas aeruginosa</i>	M20795 M20795 M20795 M20795 M20795
Entire Plant Thailand	Antibacterial Activity	ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext ETOH(95%)Ext H2O Ext H2O Ext H2O Ext H2O Ext H2O Ext	Agar Plate	100.0 mg 100.0 mg 100.0 mg 100.0 mg 100.0 mg 20.0 mg 20.0 mg 20.0 mg 20.0 mg 20.0 mg	Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive Inactive	<i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Salmonella typhosa</i> <i>Shigella dysenteriae</i> <i>Staphylococcus aureus</i> <i>Bacillus subtilis</i> <i>Escherichia coli</i> <i>Salmonella typhosa</i> <i>Shigella dysenteriae</i> <i>Staphylococcus aureus</i>	P00004

Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Leaf Iran	Antibacterial Activity	ETOH(80%)Ext ETOH(80%)Ext	Agar Plate Agar Plate	100.0 mcg/ml 100.0 mcg/ml	Inactive Inactive	Several gram + organisms. Several gram - organisms.	T09667
Not Stated	Antibacterial Activity	Fluid Ext	Agar Plate	Not Stated Not Stated	Inactive Inactive	<i>Escherichia coli</i> <i>Staphylococcus aureus</i>	A05300
Stem Iran	Antibacterial Activity	ETOH(80%)Ext ETOH(80%)Ext	Agar Plate Agar Plate	100.0 mcg/ml 100.0 mcg/ml	Inactive Inactive	Several gram + organisms. Several gram - organisms.	T09667
Aerial Parts Iraq	Antiyeast Activity	MEOH Ext MEOH Ext	Agar Plate Agar Plate	2.0 mg/ml 20.0 mg/ml	Active Active	<i>Candida albicans</i> <i>Candida pseudotropicalis</i>	M20795 M20795
Entire Plant Thailand	Antiyeast Activity	ETOH(95%)Ext H2O Ext	Agar Plate	100.0 mg 20.0 mg	Inactive Inactive	<i>Candida albicans</i> <i>Candida albicans</i>	P00004
Rhizome France	Antiviral Activity	ETOH(100%)Ext	Cell Culture	Variable	Active	<i>Vesicular stomatitis virus</i>	T14737
Aerial Parts Iraq	Benzopyrene-protein Binding Inhibition	ETOH(80%)Ext ETOH(80%)Ext H2O Ext H2O Ext	Not Stated Not Stated Rat Microsomes Rat Microsomes	8.0 mcg/ml 8.0 mg/ml Not Stated Not Stated	Inactive Inactive Inactive Inactive	Aryl-hydrocarbon hydroxylase activity measured. Benzopyrene binding to rat liver microsomal protein measured.	M22513
Entire Plant Japan	Moulting Activity(insect)	MEOH Ext	Injection	10.0 microliters	Weak Activity	<i>Sarcophaga peregrina</i>	W02556
Entire Plant Taiwan	Moulting Activity(insect)	MEOH Ext	Not Stated	10.0 mg	Inactive	<i>Sarcophaga peregrina</i>	A14723

Biological Activities for Compounds of Avenca (*Adiantum capillus-veneris*)

Compound Tested	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Naringin	Antiplatelet-activating factor Activity	In vitro	Not Stated	Active	Inhibited the function of platelet-activating factor.	AG1019
Rutin	Antiplatelet-activating Factor Activity	Cell Culture	9.55 x 10(-9) mol/L	Active	Inhibited platelet-activating factor and platelet aggregation.	AG1016
Astragalin	Histamine Inhibition	Cell Culture	Not Stated	Active	Inhibited histamine release by basophils.	AG1006
Astragalin	Histamine Inhibition	Cell Culture	Not Stated	Active	Inhibited the release of histamine by the human basophilic cell line KU812.	AG1008
Rutin	Serotonin Release Inhibition	Cell Culture	IC50=0.73 mmol/L IC50=1.13 mmol/L	Active Active	5-HT release from platelets.	AG1016
Rutin	Intracellular Calcium Modulation	Cell Culture	68.3 mumol/L 136 mumol/L 274 mumol/L 545 mumol/L	Active	Inhibited the increase of intraplatelet free calcium.	AG1016
Astragalin	Antidermatitis Activity	Oral Mice	1.5 mg/kg	Active	Reduced the severity of pre-existing dermatitis and prevented the development of atopic dermatitis.	AG1006
Astragalin	Antidermatitis Activity	Oral Mice	Not Stated	Active	Reduced the development of atopic dermatitis, scratching behavior and serum IgE elevation. Histology revealed reduced infiltration of inflammatory cells, degranulated mast cells, thickening of the epidermis and hyperkeratosis.	AG1008
Naringin	Antioxidant Activity	Rabbit	0.5 g/kg	Active	Increased hepatic superoxide dismutase and catalase activity. Decreased hepatic mitochondrial hydrogen peroxide. Increased plasma vitamin E concentrations.	AG1010
Naringin	DNA Protecting Effect	Cell Culture	2 mg/kg	Active	Protected mouse bone marrow cells against gamma-radiation induced DNA damage and reduced cell proliferation.	AG1009

Compound Tested	Activity Tested For	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Astragalin	Antiproliferative Activity	Cell Culture	Not Stated	Active	Inhibited human mesangial cell proliferation and matrix over-synthesis possibly through decreasing beta-1-integrin gene over-expression. These effects may prevent the progression of chronic renal disease.	AG1007
Naringin	Hepatoprotective Activity	Oral Rabbit	500 mg/kg	Active		AG1012
Rutin	Hepatoprotective Activity	Oral Mice	20 mg/kg	Active Active	Pretreatment of mice with rutin before paracetamol overdose reduced the death rate from 100% to 40%. Pretreatment prevented the paracetamol rise in liver enzymes. Pretreatment prevented CCI(4) rise in liver enzymes and prevented the CCI(4)-induced prolongation in pentobarbital sleeping time.	AG1017
Naringin	Anticholesterolemic Activity	Chick	Not Stated	Active	Reduced total cholesterol, LDL, VLDL and triglycerols. No reduction in HDL seen.	AG1011
Rutin	Anticholesterolemic Activity	Chick	Not Stated	Active	Reduced total cholesterol, LDL, VLDL and triglycerols. No reduction in HDL seen.	AG1011
Naringin	Anticholesterolemic Activity	Oral Rat	0.1%	Active	Lowered plasma cholesterol and triglyceride concentrations as well as HMG-CoA reductase activity.	AG1013
Rutin	Gastroprotective Activity	Rat	Not Stated	Active	Protected against reflux oesophagitis by inhibiting gastric acid secretion, oxidative stress, inflammatory cytokine production and intracellular calcium mobilization in PMNs.	AG1018
Shikimic acid	Neuroprotective Activity	IP Rat	50 mg/kg	Active	Reduced focal cerebral ischemic injury induced by middle cerebral artery thrombosis.	AG1014
Zeaxanthin	Photoreceptor Protective Effect	Oral Quail	35 mg/kg	Active	Protected photoreceptors from light-induced death.	AG1015

Return to the [Avenca Plant Database File](#)

© Copyrighted 2004 Raintree Nutrition, Inc. Carson City, Nevada 89701. All rights reserved.
Please read the [Conditions of Use](#) and [Copyright Statement](#) for this web page and website.

GI = Gastric Intubation IG = Intragastric IP = Intraperitoneally IV = Intravenously SC = Subcutaneously IM = Intramuscular
© Copyrighted 2004. Raintree Nutrition, Inc. Carson City, NV 89701. All Rights Reserved. www.rain-tree.com