

## Biological Activities of Ubos (*Spondias mombin*)

Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Leaf - Nigeria	Toxicity Assessment	H2O ext	IP Mouse	LD50: 1.86 gm / kg	Active	Quantitative assessment	T16089
Leaf - Nigeria	Toxicity Assessment	H2O ext MEOH ext ETOH ext	PO Mouse PO Rat	5 g / kg	Inactive	No toxicity noted in any doses given to mice or rats orally.	SM2008
Leaf - Nigeria	Toxicity Assessment	H2O ext	IP Mouse IP Rat	200 mg /kg	Inactive	No toxicity noted.	SM2008
Leaf - Nigeria	Toxicity Assessment	H2O ext MEOH ext ETOH ext	IP Mouse	LD50: 1.36 g/kg LD50: 1.10 g/kg LD50: 0.48 g/kg	Active		SM2008
Leaf - Nigeria	Toxicity Assessment	H2O ext MEOH ext ETOH ext	IP Rat	LD50: 1.42 g/kg LD50: 1.08 g/kg LD50: 0.62 g/kg	Active		SM2008
Leaf - Nigeria	Uterine Stimulant Activity	H2O ext	Guinea pig	2-3 ml	Active	pregnant & non-pregnant uterus	T07675
Leaf - Nigeria	Uterine Stimulant Activity	H2O ext	Rat	37.5 mg / ml	Inactive	Uterus pregnant	T16089
Stembark - Brazil	Uterine Stimulant Activity	H2O ext	Rat	Not stated	Active	Strong activity	A03531
Leaf - Nigeria	Abortifacient Effect	H2O ext	GI Guinea pig	20 ml	Active	Aborted on the 5 <sup>th</sup> day.	T07675
Leaf - Nigeria	Abortifacient Effect	H2O ext	IP Mouse	ED50: 750 mg / kg	Active		T16089
Leaf - Nigeria	Antioxytotic Effect	H2O ext	Mouse (pregnant)	37.5 mg / ml	Inactive	vs. oxytocin-induced contractions	T16089
Leaf - Nigeria	Antioxytotic Effect	H2O ext	Rat (pregnant)	37.5 mg / ml	Inactive	vs. oxytocin-induced contractions	T16089
Leaf - Nigeria	Antioxytotic Effect	H2O ext	Rat (non pregnant)	37.5 mg / ml	Inactive	vs. oxytocin-induced contractions	T16089
Leaf - Nigeria	Antioxytotic Effect	H2O ext	Mouse (non pregnant)	37.5 mg / ml	Active	vs. oxytocin-induced contractions	T16089

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Bark - Brazil	Cytotoxic Effect	MEOH ext	In vitro	Not stated	Active	Brine shrimp assay used to predict antitumor activity	ZZ1071
Leaf - Peru Bark - Peru Fruit - Peru	Cytotoxic Effect	ETOH ext	In vitro	2 drops / vial	Active	Brine shrimp assay used to predict antitumor activity. Leaf extract was most potent.	SM2010
Bark - Peru	Cytotoxic Effect	ETOH ext	Cell culture	9.1 ug / ml	Inactive	vs. colon and skin cancer cell lines	SM2011
Leaf - Nigeria	Smooth Muscle Relaxant	H2O ext	Guinea pig	2 ml	Active	vs. chemical-induced contractions	T07675
Leaf - Nigeria	Smooth Muscle Relaxant	H2O ext	Rabbit	1-2 ml	Active	vs. chemical-induced contractions	T07675
Leaf - Ivory Coast	Hemostatic Activity	Not stated	In vitro	50%	Active	Blood-human-whole	T15327
Bark - Venezuela	Anti-inflammatory Activity	ETOH ext	IG Rat	1.5 g / kg	Active	vs. carrageenan-induced pedal edema	L11991
Leaf+Twig Panama	COX 1 Inhibition	MEOH ext	In vitro	Not stated	Active		L13394
Leaf - Nigeria	Sedative Activity	MEOH ext ETOH ext H2O ext	IP Mouse IP Rat	12-100 mg / kg 12-100 mg / kg 50 mg / kg	Active Active Active	Prolonged hexobarbital sleeping time and reduced rearing.	SM2003
Leaf - Nigeria	Anxiolytic Activity	MEOH ext ETOH ext H2O ext	IP Mouse IP Rat	12-100 mg/kg	Active	The methanol and ethanol extracts at 50 and 100 mg dosages were more potent as an anxiolytic than diazepam.	SM2008
Leaf - Nigeria	Anticonvulsant Activity	MEOH ext ETOH ext H2O ext Phenolic fraction	IP Mouse IP Rat	12-100 mg / kg 12-100 mg / kg 50 mg / kg 50 mg / kg	Active	Blocked picrotoxin-induced convulsions.	SM2003
Leaf - Nigeria	Antidopaminergic Activity	MEOH ext ETOH ext H2O ext Phenolic ext	IP Mouse IP Rat	12-100 mg / kg 12-100 mg / kg 50 mg / kg	Active	Decreased amphetamine- and apomorphine-induced stereotyped behavior.	SM2003
Fruit - Nigeria	Anticonvulsant Activity	ETOH ext	IP Mouse	Various	Inactive	vs. chemical induced convulsions.	T06510

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Leaf - Nigeria	Anthelmintic Activity	ETOH ext H2O ext	PO sheep	500 mg / kg	Active	After 2 doses fecal egg reductions were 15% for <i>Haemonchus</i> , 27.5% for <i>Trichostrongylus</i> , 65% for <i>Oesophagostomum</i> , 54% for <i>Strongyloides</i> , and 100% for <i>Tichuris</i> .	SM2004
Leaf - Nigeria	Anthelmintic Activity	ETOH ext H2O ext	In vitro	LC50: 0.456 mg/ml LC50: 0.907 mg/ml	Active	vs. ovine gastrointestinal nematodes.	SM2004
Leaf - Nigeria	Antispasmodic Activity	Butanol Ext	Not stated	140 mcg / ml	Active	Uterus (unspecified)	L28236
Leaf - Nigeria	Smooth Muscle Stimulant	H2O ext	Guinea pig	10 ml	Inactive	Ileum	T07675
Leaf - Nigeria	Smooth Muscle Stimulant	H2O ext	Guinea pig	25.8 mg / ml 187.5 mg / ml	Inactive Active (weak)	Ileum	T16089
Fruit - Peru	Wound Healing Acceleration Activity	Hexane ext	Mouse external	100 mg / animal	Active		L12623
Latex - Peru	Capillary Permeability Increase	Pure latex	IP Rat	2.5 mg / animal	Active		L12623
Leaf-Twig Panama	Antioxidant Activity	MEOH ext	In vitro	IC50 7.14 mcg/ml	Active		L13394
Leaf - Peru	Antioxidant Activity	ETOH ext	TLC plate	Not stated	Active		SM2009
Leaf-Twig Panama	Carcinogenesis Inhibition	MEOH ext	Cell culture	Not stated	Active	vs. DMBA-induced breast cancer	L13394
Bark - Nigeria	Carcinogenesis Inhibition	Not stated	PO Rat	Not stated	Active	Lowered rates of tumor incidence over control in rats fed a carcinogenic diet.	SM2007
Leaf+Stem Ghana	Beta-Lactamase Inhibition	Hexane ext	In vitro	Not stated	Active		H14218
Bark - Peru	Antibacterial Activity	ETOH ext	Agar plate	20 uL / plate	Active	<i>Pseudomonas aeruginosa</i> <i>Bacillus cereus</i>	SM2010
Leaf - Peru	Antibacterial Activity	ETOH ext	Agar plate	20 uL / plate	Active Active	<i>Pseudomonas aeruginosa</i> <i>Bacillus cereus</i>	SM2009

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Leaf - Peru	Antibacterial Activity	ETOH ext	Agar plate	20 uL / plate	Strong Activity	<i>Pseudomonas aeruginosa</i> <i>Bacillus cereus</i>	SM2010
Leaf - Nigeria	Antibacterial Activity	ETOH ext	Agar plate	10% 10% 5% 10% 5% 5%	Active Active Active Active Active Active	<i>Streptococcus sabrinus</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Escherichia coli</i> <i>Shigella dysenteriae</i> <i>Salmonella typhosa</i>	T11002
Leaf - Nigeria	Antibacterial Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Active	<i>Pseudomonas aeruginosa</i> <i>Shigella dysenteriae</i> <i>Salmonella typhosa</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Proteus mirabilis</i> <i>Staphylococcus aureus</i> <i>Bacillus megaterium</i> <i>Bacillus subtilis</i>	L07104
Leaf - Guatemala	Antibacterial Activity	ETOH-H2O ext	Agar plate	50 mcg / plate	Inactive	<i>Neisseria gonorrhoea</i>	K27236
Leaf+Root Guatemala	Antibacterial Activity	ETOH-H2O ext	Agar plate	50 mcg / plate	Active	<i>Neisseria gonorrhoea</i>	K27236
Stembark - Nigeria	Antibacterial Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Active Active Active Active Active Inactive Active Active Inactive Active	<i>Pseudomonas aeruginosa</i> <i>Shigella dysenteriae</i> <i>Salmonella typhosa</i> <i>Escherichia coli</i> <i>Klebsiella pneumoniae</i> <i>Proteus mirabilis</i> <i>Staphylococcus aureus</i> <i>Bacillus megaterium</i> <i>Bacillus subtilis</i>	L07104
Bark - Peru	Antibacterial Activity	ETOH ext	Agar plate	20 uL / plate	Active Active Inactive Inactive Inactive	<i>Bacillus cereus</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> <i>Escherichia coli</i> <i>Helicobacter pylori</i>	SM2011

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Plant Part - Origin	Activity Tested For	Type Extract	Test Model	Dosage	Result	Notes/Organism tested	Ref #
Leaf+Twig Panama	Reverse Transcriptase Inhibition	MEOH ext	In vitro	Not stated	Active	Virus-HIV-1	L13394
Leaf+Twig Panama	Reverse Transcriptase Inhibition	Tannin-free ext	In vitro	IC50 > 68 mcg/ml	Inactive	Virus-HIV-1	L13394
Stembark Panama	Reverse Transcriptase Inhibition	Tannin-free ext	In vitro	IC50 > 82 mcg/ml	Inactive	Virus-HIV-1	L13394
Stembark Panama	Reverse Transcriptase Inhibition	MEOH ext	In vitro	Not stated	Active	Virus-HIV-1	L13394
Leaf+Stem Belgium	Antiviral Activity	ETOH ext	Cell culture	Not stated	Active	<i>Herpes simplex - 1</i> <i>Coxsackie B2</i> <i>Poliovirus 1</i>	T09536
Leaf+Stem Belgium	Antiviral Activity	ETOH ext	Cell culture	Not stated	Active	<i>Herpes simplex - 1</i> <i>Coxsackie B2</i> <i>Poliovirus 1</i>	T13607
Leaf - Belgium	Antiviral Activity	ETOH ext	Cell culture	100 mcg / ml	Active	<i>Herpes simplex - 1</i>	M31529
Leaf+Stem Belgium	Antiviral Activity	Fraction ext	Cell culture	Not stated	Active	<i>Herpes simplex - 1</i>	T09536
Leaf - Brazil	Antiviral Activity	ETOH ext	Cell culture	160 mcg / ml	Active	Inhibited human rotovirus by 97% and simian rotovirus by 96.2%	SM2006
Bark - Brazil	Antiviral Activity	ETOH ext	Cell culture	40 mcg / ml	Active	Inhibited human rotovirus by 82.2%.	SM2006
Leaf - Nigeria	Antifungal Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Active	<i>Microsporium</i> species	L07104
Leaf - Nigeria	Antifungal Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Inactive	<i>Aspergillus niger</i> <i>Penicillium</i> species	L07104
Stembark - Nigeria	Antifungal Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Inactive Inactive Active	<i>Aspergillus niger</i> <i>Penicillium</i> species <i>Microsporium</i> species	L07104
Stembark - Nigeria	Antifungal Activity	Pet ether ext	Agar plate	50 mg / ml	Active Active Active	<i>Aspergillus niger</i> <i>Penicillium</i> species <i>Microsporium</i> species	L07104

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Stembark - Nigeria	Antifungal Activity	CHCL3 ext	Agar plate	50 mg / ml	Active Active Active	<i>Aspergillus niger</i> <i>Penicillium</i> species <i>Microsporium</i> species	L07104
Bark - Peru	Antifungal Activity	ETOH ext	Agar plate	20 uL / plate	Active Active Active	<i>Saccharomyces cerevisiae</i> <i>Epidermophyton floccosum</i> <i>Trichophyton mentagrophytes</i>	SM2011
Leaf - Peru	Antiyeast Activity	ETOH ext	Agar plate	20 uL / plate	Active	<i>Candida albicans</i>	SM2009
Leaf - Peru	Antiyeast Activity	ETOH ext	Agar plate	20 uL / plate	Strong Activity	<i>Candida albicans</i>	SM2010
Bark - Peru	Antiyeast Activity	ETOH ext	Agar plate	20 uL / plate	Strong Activity	<i>Candida albicans</i>	SM2010
Bark - Peru	Antiyeast Activity	ETOH ext	Agar plate	20 uL / plate	Active	<i>Candida albicans</i>	SM2011
Stembark - Nigeria	Antiyeast Activity	Pet ether ext CHCL3 extract	Agar plate	50 mg / ml 50 mg / ml	Active	<i>Candida albicans</i>	L07104
Stembark - Nigeria	Antiyeast Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Active	<i>Candida albicans</i>	L07104
Leaf - Nigeria	Antiyeast Activity	Fraction Alkaloids	Agar plate	100 mg / ml	Active	<i>Candida albicans</i>	L07104
Leaf - Guatemala	Antiyeast Activity	ETOH ext	Agar plate	Not stated	Inactive	<i>Candida albicans</i>	M31296
Trunk bark - Brazil	Molluscicidal Activity	ETOH ext H2O ext	In vitro	1000 ppm	Active (weak)	<i>Biomphalaria glabrata</i> <i>Biomphalaria straminea</i>	W02949

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