



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

BLG/VEN/79.1

ENGLISH ONLY INDEXED

Venoms - Antivenims - Standardization

COORDINATION MEETING ON THE STANDARDIZATION OF
SNAKE AND SCORPION VENOMS AND ANTIVENINS

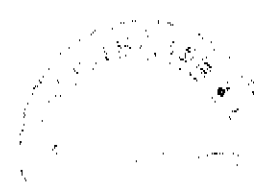
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TABLE ON
SNAKE VENOM POISONING

Venoms - Antivenims

by

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Producer or Distributor	Venoms Used in Preparation	Trade or Common Name	Common Name of Snake	Additional Venoms Neutralized	Comments		
NORTH AMERICA							
Wyeth Laboratories Box 8299, Philadelphia, Pennsylvania, U.S.A.	<u>Crotalus durissus terrificus</u> <u>Bothrops atrox</u> <u>Crotalus adamanteus</u> <u>Crotalus atrox</u>	Antivenin (Crotalidae) Polyvalent	South American rattlesnake	<u>Crotalus</u> sp. <u>Sistrurus</u> sp. <u>Akistrodon</u> sp. (Old & New World) <u>Bothrops</u> sp. <u>Lachesis</u> sp. <u>Trimetresurus</u> sp.	Precipitated with ammonium sulphate, and lyophilized		
			Barba Amarilla				
			Eastern diamondback rattlesnake				
			Western diamondback rattlesnake				
	Laboratorios "WYN", S.A. Av. Coyoacan 1707 Mexico City 12, D.F., Mexico	<u>Micrurus fulvius fulvius</u>	Antivenin (Micrurus Fulvius)	Eastern coral snake	<u>Micrurus fulvius tener</u>	Enzyme digested, precipitated with ammonium sulphate, and lyophilized.	
				Barba Amarilla			
	Instituto Nacional de Higiene, Ceda. M. Escobedo No. 20, Mexico City, D.F., Mexico	<u>Bothrops atrox</u> <u>Crotalus d. terrificus</u> <u>Crotalus tigris</u>	Monovalent Bothrops Polyvalent Crotalus	Western diamondback rattlesnake	All Mexican crotalids		
				South American rattlesnake			
				Tiger rattlesnake			
		<u>Bothrops atrox</u> <u>Crotalus d. terrificus</u> <u>Crotalus tigris</u> <u>Crotalus atrox</u>	Polyvalent Mexico	Barba Amarilla South American rattlesnake Tiger rattlesnake Western diamondback rattlesnake	All Mexican crotalids		
Barba Amarilla							
South American rattlesnake							
<u>Bothrops atrox</u> <u>Crotalus d. basalisus</u> <u>Crotalus d. terrificus</u>		Anti-Bothrops Anti-Crotalus	Barba Amarilla Mexican rattlesnake South American rattlesnake	Pepsin digestion, and ammonium sulphate precipitation. (No recent confirmation).			
							Barba Amarilla
							Mexican rattlesnake
<u>Bothrops atrox</u> <u>Crotalus d. basalisus</u> <u>Crotalus d. terrificus</u>		Polyvalent	Barba Amarilla Mexican rattlesnake South American rattlesnake				
	Barba Amarilla						
	Mexican rattlesnake						
CENTRAL AND SOUTH AMERICA University de Costa Rica Ciudad Universitaria Rodrigo Facio San José, Costa Rica	<u>Lachesis muta stenophrys</u>	Anti-Isquesico	Bushmaster	<u>Lachesis muta muta</u> <u>Lachesis muta noctivyaga</u>	Pepsin digested, freeze dried or liquid		
	<u>Bothrops atrox asper</u> <u>Crotalus durissus durissus</u> <u>Lachesis muta stenophrys</u>	Polyvalent	Terciopelo Central American rattlesnake Bushmaster	<u>Lachesis muta muta</u> <u>Lachesis muta noctivyaga</u> <u>Akistrodon bilineatus</u> <u>Bothrops tumifer</u> <u>Bothrops pitadori</u> <u>Bothrops nasutus</u> <u>Bothrops ophryosagae</u> <u>Bothrops godmani</u> <u>Bothrops lateralis</u> <u>Bothrops schlegelii</u> <u>Bothrops nigroviridis</u>	<u>Micrurus carinicaudus dumerilii</u> <u>Micrurus fulvius fulvius</u>		
	<u>Micrurus nigrocinctus nigrocinctus</u> <u>Micrurus nigrocinctus mosquitenensis</u>	Anti-Coral (Central America)					

<u>Micrurus nigrocinctus</u> <u>Micrurus mipartitus</u> <u>Micrurus frontalis</u>	Anti-Coral Polyvalent	Giant Coral snake	<u>Micrurus fulvius fulvius</u> <u>Micrurus alleni</u> <u>Micrurus caribaeandus</u> <u>Micrurus spixii</u> <u>Micrurus lemniscatus</u> <u>Micrurus corallinus</u>	
<u>Bothrops atrox</u> <u>Crotalus d. terrificus</u>	Antiophidico Polivalente	Barba amarilla South American rattlesnake	Bothrops species Crotalus species	Globulin precipitated with ammonium sulphate
<u>Crotalus d. terrificus</u>		South American rattlesnake or cascabel	<u>Crotalus vegrandis</u>	Foreign protein reduced.
<u>Bothrops atrox</u> <u>Bothrops venezuelae</u>		Barba Amarilla Tigra-mariposa	<u>Bothrops colombiensis</u>	
<u>Bothrops atrox</u> <u>Bothrops venezuelae</u> <u>Crotalus d. terrificus</u>		Barba Amarilla Tigra-mariposa South American rattlesnake or cascabel	<u>Bothrops colombiensis</u> <u>Bothrops bilineata</u> <u>Bothrops lansbergii</u> <u>Bothrops lichenosus</u> <u>Bothrops medusa</u> <u>Bothrops neglectus</u> <u>Bothrops schlegelii</u> <u>Crotalus vegrandis</u>	Purified by enzymatic and differential thermocoagulation techniques. (No recent confirmation).
<u>Crotalus d. terrificus</u>		South American rattlesnake or cascabel		
<u>Bothrops alternatus</u> <u>Bothrops newiedii</u>	Bothrops Bi-Valent	Yarara or de la Cruz Wied's lance-head, Yarara Chica or painted jararaca		
<u>Bothrops alternatus</u> <u>Bothrops jararaca</u> <u>Bothrops jaracussu</u> <u>Bothrops newiedii</u> <u>Crotalus d. terrificus</u>	Tropical Polyvalent	Yarara or de la Cruz Jararaca Yarara Wied's lance-head South American rattlesnake or cascabel		
<u>Bothrops alternatus</u> <u>Bothrops newiedii</u> <u>Crotalus d. terrificus</u>	Tropical Tri-Valent	Yarara or de la Cruz Wied's lance-head South American rattlesnake or cascabel		
<u>Crotalus d. terrificus</u>	Anticrotalic	South American rattlesnake or cascabel		Pepsin digested and ammonium sulfate precipitation.
<u>Lachesis muta</u>	Antilaquetico	Bushmaster or Surucucu		It can be expected that the antivenoms of this Institute neutralize other crotalid venoms, even though the producers note in a personal letter that the scarcity of data preclude any specific claims

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Ave. Eldorado con Carrera,
Zona G,
Bogota, D.E., Colombia

Laboratorio Behrens
Ave. Principal de
Chapellin, Apartado 62,
Caracas, 101 Venezuela

Instituto Nacional de
Microbiologia Avdo. Velez
Sarsfield 563,
Buenos Aires, Argentina

Instituto Butantan
Caixa Postal 65,
São Paulo, Brazil

Institute of Immunology Rockefellerova 2 Zagreb, Yugoslavia	<u>Vipera ammodytes</u>	Antiviperinum	Long-nosed viper	<u>Vipera berus</u> <u>Vipera aspis</u>	Solution digested with pepsin, and precipitated with ammonium sulphate.
Institute of Epidemiology and Microbiology Sofia, Bulgaria	<u>Vipera ammodytes</u>		Long-nosed viper	<u>Vipera berus</u> <u>Vipera aspis</u>	Ammonium sulphate precipitation.
Research Institute of Vaccine and Serum Ministry of Public Health Ul. Kafanova 93 Tashkent, U.S.S.R	<u>Echis carinatus</u> <u>Naja naja</u> <u>Vipera lebetina</u> <u>Echis carinatus</u> <u>Naja naja</u> <u>Naja naja</u> <u>Vipera lebetina</u>	Monovalent Echis carinatus Monovalent Naja naja Monovalent Vipera lebetina Polyvalent Naja and Echis Polyvalent vipera and Naja	Saw-scaled viper Indian cobra Levantine viper Saw-scaled viper Indian cobra Indian cobra Levantine viper		No confirmation or recent letter indicating product or processing
AFRICA					
Institut Pasteur d'Algerie	<u>Cerastes cerastes</u> <u>Vipera lebetina</u>	Antiviperin	Horned viper Levantine viper		Solution digested with pepsin and precipitated with ammonium sulphate.
The South African Institute for Medical Research P.O. Box 1038 Johannesburg 2000, Republic of South Africa	<u>Hemachatus haemachatus</u> <u>Naja nivea</u> <u>Naja haje</u> <u>Naja melanoleuca</u> <u>Naja nigricollis</u> <u>Dendroaspis angusticeps</u> <u>Dendroaspis Jamesoni</u> <u>Dendroaspis polylepis</u> <u>Bitis arietans</u> <u>Bitis gabonica</u> <u>Echis carinatus</u>	Polyvalent Echis	Ringhals Cape cobra Egyptian cobra Forest cobra Spitting cobra Eastern green mamba Jameson's mamba Black mamba Puff adder Gaboon viper Saw-scaled viper	<u>Naja naja</u> <u>Ophiophagus hannah</u> <u>Pseudohaje soliffi</u> <u>Walterinnesia egyptia</u> <u>Dendroaspis viridis</u>	Digested with pepsin and precipitated with ammonium sulphate
FitzSimmon's Snake Park, P.O. Box 1 Snel Parade, Durban, Republic of South Africa	<u>Dendroaspis angusticeps</u> <u>Dendroaspis Jamesoni</u> <u>Dendroaspis polylepis</u> <u>Hemachatus haemachatus</u> <u>Naja nivea</u> <u>Bitis arietans</u> <u>Bitis gabonica</u>		Eastern green mamba Jameson's mamba Black mamba Ringhals Yellow cobra Puff adder Gaboon viper	<u>Dendroaspis viridis</u> <u>Naja naja</u> and African cobras	Digested with pepsin, precipitated with ammonium sulphate, and dialyzed

ASIA

Central Research Institute Kasauli, (Simla Hills), (H.P.) India	<u>Bungarus caeruleus</u>	Polyvalent	Indian krait Indian cobra Russell's viper Saw-scaled viper	<u>Bungarus fasciatus</u>	Enzyme refined, equine globulin supplied in liquid and lyophilized forms.
	<u>Naja naja</u>			<u>Naja hannah</u>	
	<u>Vipera russelli</u>				
	<u>Echis carinatus</u>				
Haffkine Bio-pharmaceutical Corporation Ltd. Parel, Bombay, India	<u>Bungarus caeruleus</u>	Bungarus	Indian krait	<u>Bungarus fasciatus</u>	Digested with pepsin, concentrat- ed and lyophilized.
	<u>Naja naja</u>	Naja	Indian cobra	<u>Naja naja kaouthia</u>	
	<u>Vipera russelli</u>	Vipera	Russell's viper	<u>Naja naja oxiana</u>	
	<u>Echis carinatus</u>	Echis	Saw-scaled viper	<u>Ophiophagus hannah</u>	
	<u>Bungarus caeruleus</u>	Polyvalent	Indian krait	<u>Trimeresurus gramineus</u>	
	<u>Naja naja</u>		Indian cobra		
	<u>Echis carinatus</u>		Saw-scaled viper	<u>Trimeresurus labialis</u>	
Perusahaan Negara Biofarma 9, Jalan Pasteur, Bandung, Indonesia	<u>Akistrodon rhodostoma</u>		Malayan pit viper		Purified serum supplied in liquid form.
	<u>Bungarus fasciatus</u>		Banded krait		
	<u>Naja sputatrix</u>		Malayan cobra		
	<u>Naja naja oxiana</u>		Oxus cobra		
	<u>Vipera lebetina</u>		Levantine viper		
	<u>Echis carinatus</u>		Saw-scaled viper		
	<u>Pseudocerastes persicus</u>		Persian horned viper		
	<u>Vipera latasti</u>		Snub-nosed viper		
	<u>Akistrodon halys</u>		Mamushi		
	<u>Naja naja oxiana</u>		Oxus cobra		
<u>Vipera lebetina</u>		Levantine viper			
<u>Vipera xanthina</u>	Polyvalent	Near East viper	<u>Cerastes cerastes</u>		
<u>Echis carinatus</u>		Saw-scaled viper	<u>Eristicophis macmahonii</u>		
<u>Pseudocerastes persicus</u>		Persian horned viper	<u>Vipera aspis</u>		
<u>Akistrodon halys</u>		Mamushi	<u>Vipera cerastes</u>		
			<u>Vipera latasti</u>		
			<u>Vipera x. palestinae</u>		
Rogoff Medical Research Institute Beilinson Medical Centre Tel-Aviv, Israel.	<u>Echis coloratus</u>	Arabian Echis	Arabian saw-scaled viper		Whole venom plus resin-bound "neuro- toxin" used as antigen. Supplied as globulin fraction of horse serum in liquid form
	<u>Vipera xanthina palaestinae</u>	Palestine viper	Palestine viper		

Laboratory of Chemotherapy and Serum Therapy Kumamoto City, Kyushu, Japan	<u>Trimeresurus flavoviridis</u>	Habu	Habu	Concentrated and lyophilized.
The Takeda Pharmaceutical Company Osaka, Japan	<u>Akistrodon halys</u>	Hamushi	Mamushi	Concentrated and lyophilized.
Serum and Vaccine Laboratories, Alabang, Mutinlupa, Rizal, Philippines	<u>Naja naja philippinensis</u>	Cobra	Philippine cobra	Concentrated and purified.
National Institute of Preventive Medicine 161 Kun-Yang St., Nan-Kang, Taipei, Taiwan	<u>Akistrodon acutus</u> <u>Bungarus multicinctus</u> <u>Naja naja atra</u> <u>Trimeresurus steinegeri</u> <u>Trimeresurus microscquamatus</u> <u>Bungarus multicinctus</u> <u>Naja naja atra</u>	Akistrodon Bungarus Naja Trimeresurus Naja-Bungarus	Long-nosed pit viper Many banded krait Chinese cobra Bamboo viper Chinese habu Many-banded krait Chinese cobra	Immunized with formalin-toxoid venom. Venom ammonium sulphate precipitated, and supplied in liquid or lyophilized form.
Queen Seovabha Memorial Institute Rama 4 Road, Bangkok, Thailand	<u>Bungaru fasciatus</u> <u>Naja naja</u> <u>Ophiophagus hannah</u> <u>Vipera russelli</u> <u>Akistrodon rhodostoma</u>	Bungarus Cobra King cobra Russell's viper Malayan pit viper	Banded krait Indian cobra King cobra Russell's viper Malayan pit viper	Lyophilized whole serum.
Commonwealth Serum Laboratories** 45, Poplar Road, Parkville, Victoria 3052 Australia	<u>Acanthophis antarcticus</u> <u>Notechis scutatus</u> <u>Enhydryna schistosoma</u> <u>Oxyuranus scutellatus</u> <u>Pseudonaja textilis</u> <u>Pseudechis australis</u>	Death adder Tiger-sea snake Taipan Eastern brown snake Brown snake	Common death adder Mainland tiger snake Beaked sea snake Taipan Eastern brown snake King brown snake	Prepared by pepsin digestion, and ammonium sulphate precipitation. The products are dialyzed and ultra-filtered to a final concentration of 17% protein.
	<u>Acanthophis pyrrhus</u> <u>Austrelaps superba</u> <u>Pseudechis porphyriacus</u> <u>Tropidochis carinatus</u>			Laboratory experiments indicate that antivenin neutralizes at least 12 different sea snake anti-venins.
	<u>Pseudonaja affinis</u> <u>Pseudonaja nuchalis</u> <u>Pseudechis australis</u> <u>Pseudechis porphyriacus</u>			

AUSTRALIA

Oxyuranus scutellatus
Acanthophis antarcticus
Kohechis scutatus
Pseudechis australis
Pseudonaja textilis

Polyvalent
 (Australia-New Guinea)

Taiwan
 Death adder
 Tiger snake
 King brown snake
 Eastern brown snake

Austrelaps superba
Pseudechis porphyriacus
Pseudonaja affinis
Pseudonaja mitchelli
Pseudechis papuanus
Parademansia microlepidota

* Additional venoms which said antivenin may neutralize, according to the producer. It can be expected that the antivenin will afford some protection, even though it might be slight, against the venoms of snakes of closely related species.

** Manufacturer states that no true monospecific commercial antivenins are available. Horses are first "sensitized" to all major venoms and may then be used to produce a succession of separate antivenins.