

Table S1A. The median lethal doses of various medically important elapid snake venoms sSA.

Sr. No.	Name of Species	Venom Dose (µg)					Number of survivors					LD ₅₀ (µg/mouse) With 95% CI	LD ₅₀ (mg/kg) With 95% CI
1	<i>N. nigricolis</i>	10	12.5	15.63	19.53	24.41	5	2	1	1	0	9.60 7.17-12.84	0.48 0.36-0.64
2	<i>N. palida</i>	7.70	9.63	12.03	15.04	18.80	5	4	1	0	0	10.76 9.94-11.65	0.54 0.50-0.58
3	<i>N. woodi</i>	7.68	9.60	12	15.00	18.75	5	5	2	1	0	10.90 9.39-12.66	0.55 0.47-0.63
4	<i>N. senegalensis</i>	8	10	12.5	15.63	19.53	5	4	1	0	0	11.18 10.33-12.10	0.56 0.52-0.61
5	<i>N. nubiae</i>	15	18.75	23.44	29.30	36.62	4	2	1	0	0	18.34 16.25-20.70	0.92 0.81-1.03
6	<i>N. nivea</i>	13.2	16.50	20.63	25.78	32.23	5	4	1	0	0	18.45 17.04-19.97	0.92 0.85-0.99
7	<i>N. nigricinta</i>	15	18.75	23.44	29.30	36.62	5	4	1	1	0	21.86 19.48-24.54	1.09 0.97-1.23
8	<i>N. katiensis</i>	18	22.50	28.13	35.16	43.95	5	5	3	1	0	29.62 26.83-32.69	1.48 1.34-1.63
9	<i>N. mosambica</i>	23.44	29.30	36.62	45.78	57.22	5	2	1	0	0	26.62 22.67-31.25	1.33 1.14-1.56
10	<i>N. ashei</i>	23.44	29.30	36.62	45.78	57.22	5	2	2	1	0	26.08 19.70-34.55	1.30 0.98-1.72
11	<i>N. annulifera</i>	32	40	50	62.50	78.13	5	3	1	0	0	42.12 38.10-46.55	2.11 1.91-2.33
12	<i>N. anchietae</i>	27.50	34.38	42.97	53.71	67.14	5	5	4	2	0	51.01 16.14-56.38	2.56 2.31-2.82
13	<i>D. polylepis</i>	4	5	6.25	7.81	9.77	5	5	4	1	0	6.99 6.46-7.56	0.35 0.32-0.38

The table indicates various dose groups, survival patterns and toxicities of elapid snake venoms from sSA.

Table S1B. The median lethal doses of various medically important viperid snake venoms sSA.

Sr. No.	Name of Species	Venom Dose (µg)					Number of survivors					LD50 (µg/mouse) With 95 % CI	LD50 (mg/kg) With 95 % CI
1	<i>B. arietans</i>	8	10	12.50	15.63	19.53	5	5	3	1	0	13.16 11.92-14.53	0.66 0.60-0.73
2	<i>B. caudalis</i>	5.12	6.40	8	10	12.50	4	4	1	0	0	6.86 6.10-7.71	0.34 0.30-0.39
3	<i>E. pyramidum</i>	18.75	23.44	29.29	36.61	45.76	5	2	2	2	1	19.67 12.51-30.90	0.98 0.63-1.54
4	<i>E. ocellatus</i>	10	12.50	15.63	19.53	24.41	5	4	1	0	0	13.98 12.91-15.13	0.70 0.65-0.76
5	<i>E. coloratus</i>	5.15	6.44	8.05	10.06	12.57	4	3	1	1	0	6.86 5.92-7.94	0.34 0.30-0.40

The table indicates various dose groups, survival patterns and toxicities of viperid venoms from sSA.

Table S2A. Median effective doses and neutralisation potencies of PANAF-Premium antivenom against elapid snake venoms from sSA.

Venom	Challenge dose 3X LD ₅₀ (µg/mouse)	Amount of antivenom injected in the venom-antivenom mixture (µl)					ED ₅₀ (µl) With 95 % CI	Potency of antivenom (mg/ml) With 95 % CI	Potency of antivenom (LD ₅₀ s/ml) With 95 % CI
# <i>N. nigricolis</i>	28.8	111.11	73.96	49.40	32.94	21.97	60.45 69.78-52.37	0.318 0.275-0.367	33.08 28.66-38.19
<i>N. palida</i>	32.28	111.11	73.96	49.40	32.94	21.97	67.37 80.77-56.19	0.319 0.266-0.383	29.69 24.76-35.59
<i>N. woodi</i>	32.7	49.40	32.34	21.97	14.64	9.76	17.93 20.71-15.53	1.216 1.05-1.40	111.53 96.56-128.84
<i>N. senegalensis</i>	33.57	111.11	73.96	49.40	32.94	21.97	60.45 69.78-52.37	0.370 0.320-0.427	33.08 28.66-38.19
<i>N. nubiae</i>	55.02	111.11	73.96	49.40	32.94	21.97	40.34 46.59-34.93	0.909 0.787-1.05	49.58 42.93-57.26
<i>N. nivea</i>	55.35	111.11	73.96	49.40	32.94	21.97	60.45 69.78-52.37	0.610 0.529-0.705	33.08 28.66-38.19
<i>N. nigricinta</i>	65.58	111.11	73.96	49.40	32.94	21.97	91.31 151.91-54.89	0.479 0.288-0.797	21.90 13.17-36.44
<i>N. katiensis</i>	88.86	111.11	73.96	49.40	32.94	21.97	179.22 317.15-101.27	0.331 0.187-0.585	11.16 6.31-19.75
<i>N. mosambica</i>	79.86	166.67	111.11	73.96	49.40	32.94	120.67 163.04-89.31	0.441 0.327-0.596	16.57 12.27-22.39
<i>N. ashei</i>	78.24	166.67	111.11	73.96	49.40	32.94	60.16 80.23-45.12	0.867 0.650-1.156	33.24 24.93-44.33
<i>N. annulifera</i>	126.36	166.67	111.11	73.96	49.40	32.94	X	X	X
<i>N. anchietae</i>	153.03	166.67	111.11	73.96	49.40	32.94	60.16 80.22-45.12	1.696 1.272-2.261	33.24 24.93-44.33
*# <i>D. polylepis</i>	20.97	111.11	73.96	49.40	32.94	21.97	71.12 88.27-57.29	0.197 0.158-0.244	28.12 22.66-34.91

The above table shows the toxicity neutralisation potencies of PANAF-Premium antivenom manufactured by Premium Serum and Vaccines Pvt. Ltd. The neutralisation potencies were estimated against elapid venoms from different biogeographical with 3X LD₅₀ as ‘challenge dose’ as noted in the table. * Previously published data [1]. Venoms of species marked with ‘#’ were a part of the immunisation mixture. At the same time, the ‘X’ symbol (and dark red cell colour) represents venom against which the PANAF-Premium failed to offer protection to test animals at 3x challenge dose. Cells marked with dark green colour indicate species against

which significantly higher protection was documented. Cells marked in light green or red colour were respectively found to offer increased or decreased protection.

Table S2B. Median effective doses and neutralisation potencies of PANAF-Premium antivenom against viperid snake venoms from sSA.

Venom	Challenge dose 3X LD ₅₀ (µg/mouse)	Amount of antivenom injected in the venom-antivenom mixture (µl)					ED ₅₀ (µl) With 95 % CI	Potency of antivenom (mg/ml) With 95 % CI	Potency of antivenom (LD ₅₀ s/ml) With 95 % CI
# <i>B. arietans</i>	39.48	73.96	49.40	32.94	21.97	14.64	29.99 35.88-25.06	0.876 0.733-1.05	66.69 55.73-79.79
<i>B. caudalis</i>	20.58	166.67	111.11	73.96	49.40	32.94	X	X	X
<i>E. pyramidum</i>	75.12	73.96	49.40	32.94	21.97	14.64	28.80 50.90-16.29	1.739 0.984-3.07	69.44 39.29-122.71
# <i>E. ocellatus</i>	41.94	111.11	73.96	49.40	32.94	21.97	40.34 54.80-29.69	0.693 0.510-0.942	49.58 36.50-67.35
<i>E. coloratus</i>	20.58	111.11	73.96	49.40	32.94	21.97	40.34 46.58-34.93	0.340 0.294-0.393	49.58 42.93-57.26

The above table shows the toxicity neutralisation potencies PANAF-Premium antivenom manufactured by Premium Serum and Vaccines Pvt. Ltd. The neutralisation potencies were estimated against viperid venoms from different biogeographical with 3X LD₅₀ as ‘challenge dose’ as noted in the table. Venoms of species marked with ‘#’ were a part of the immunisation mixture. At the same time, the ‘X’ symbol (and dark red cell colour) represents venom against which the PANAF-Premium failed to offer protection to test animals at 3x challenge dose. Cells marked with dark green colour indicate species against which significantly higher protection was documented. Cells marked in light green or red colour were respectively found to offer increased or decreased protection.

Reference

1. Khalek, I.S., et al., *Synthetic development of a broadly neutralizing antibody against snake venom long-chain alpha-neurotoxins*. Sci Transl Med, 2024. **16**(735): p. eadk1867.