

N-Acetyl-L-Tryptophan の毒性研究 (第1報)
マウス、ラット及びウサギにおける急性毒性試験

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Toxicological Studies on N-Acetyl-L-Tryptophan I
Acute toxicity in mice, rats and rabbits

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Summary

The acute toxicity of N-Acetyl-L-tryptophan (Acetyl-L-Trp) was investigated using ICR mice, Wistar rats and Japanese albino rabbits, compared with that of L-Tryptophan (L-Trp). The test samples were administered intravenously and intraperitoneally in form of solutions, and intraperitoneally and orally in form of suspensions.

The maximum infused volume, 200 ml/kg of Acetyl-L-Trp or L-Trp solution, each corresponding to 2,400 mg/kg or 2,000 mg/kg, respectively, did not kill animals.

The LD₅₀ values of the suspension obtained were as follows;

Animal	Route	Sex	Acetyl-L-Trp	L-Trp
Mice	IP	M	3,700	5,100
		F	3,580	4,800
	PO	M	10,800	>15,000
		F	12,500	>15,000
Rats	IP	M	3,900	2,400
		F	4,000	2,620
	PO	M	15,500	>16,000
		F	15,000	>16,000

Irrespective of route, a significant sexual difference was noted in neither the LD₅₀ values nor the toxic signs. The toxic signs common among mice and rats were hypoactivity, tremor, blepharoptosis, cyanosis and a fall of body temperature. Autopsy of the survived mice and rats intraperitoneally treated with Acetyl-L-Trp showed adhesion of hepatic lobes.

From the results obtained, it seems that Acetyl-L-Trp and L-Trp are very low toxic agents.

Key words

N-Acetyl-L-tryptophan, L-Tryptophan, Acute toxicity

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