

# N-Acetyl-L-Tryptophan の毒性研究 (第11報\*)

細菌変異株を用いた突然変異性試験

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(昭和55年 8 月 7 日受理)

## Toxicological Studies on N-Acetyl-L-Tryptophan XI\* Mutagenicity Tests with Several Bacterial Strains

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### Summary

Mutagenic potential of N-Acetyl-L-Tryptophan (Acetyl-L-Trp) and L-Tryptophan (L-Trp) was investigated in the bacterial systems.

1. DNA-damaging potential was tested in the *rec*-assay using *Bacillus subtilis* H 17(*rec*<sup>+</sup>) and M 45(*rec*<sup>-</sup>) according to the cold incubation method by Kada *et al.* Acetyl-L-Trp did not inhibit the growth of both strains at concentrations from 0.05 to 5,000 µg/disc.

2. Inducibility of reverse mutation was tested according to the pre-incubation method by Demerec or Yahagi *et al.* Acetyl-L-Trp did not induce significant reversion at concentrations from 0.05 to 5,000 µg/plate for *Escherichia coli* Sd-4 and from 0.1 to 10,000 µg/plate for *Escherichia coli* WP 2 hcr<sup>-</sup> and *Salmonella typhimurium* TA 1535, TA 1537, TA 1538, TA 100 and TA 98.

3. Reverse mutation tests were also carried out using mammalian metabolic activation system (S-9 mixture) prepared from Aroclor 1254-treated rat liver. Acetyl-L-Trp did not show mutagenic activity at concentrations from 0.1 to 100 µg/plate for *Escherichia coli* WP 2 hcr<sup>-</sup> and from 0.1 to 10,000 µg/plate for *Salmonella typhimurium* TA 1535, TA 1537, TA 1538, TA 100 and TA 98.

4. For L-Trp, negative results were also obtained for the above same test systems.

From these results, it might be concluded that Acetyl-L-Trp does not induce DNA damage or mutation in bacteria.

### Key words

N-Acetyl-L-Tryptophan, Mutagenicity test, *Rec*-assay, Reverse mutation test

### 緒 言

近年、術中術後の経口摂取不能時におけるアミノ酸輸液の投与は生体内窒素平衡を維持する手段としてきわめて意義があり、その際エネルギー源として糖質を同時に補給することはアミノ酸の利用効率を高める点で有用である<sup>1)</sup>。

\* 第10報：本誌，12，144(1981)

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