This is provisional English translation of an excerpt from the original full report.

Risk Assessment Report

Neomycin

(Veterinary Medicinal Products)

Food Safety Commission of Japan (FSCJ)
March 2018

ABSTRACT

FSCJ conducted a risk assessment of an aminoglycoside antibiotic, neomycin (CAS No.1404-04-2), by use of documents on neomycin including the assessment report from JECFA and EMEA, and documents regarding the revision of residue standards.

Data used in the assessment include pharmacokinetics (mice, rats, rabbits, guinea pigs, cattle, pigs, sheep, chicken and humans), residues (cattle, pigs, sheep, goats, chicken, turkeys and ducks), genotoxicity, acute toxicity (mice and rats), subacute toxicity (mice, rats, rabbits and dogs), chronic toxicity and carcinogenicity (rats and cats), reproductive developmental toxicity (rats), and microbiological effects.

In a study on pharmacokinetics of neomycin, the bioavailability after oral administration was low and the most of the administered neomycin was excreted in stools as parent compounds. The absorbed neomycin was little metabolized and accumulated as parent compounds in the kidney the most then in the liver.
In the residue study, the highest level of residue was observed in the kidney and remained for the longest time.
Since neomycin was negative in the *in vitro* reverse mutation test and the gene mutation test as well as in the *in vivo* chromosomal aberration tests, FSCJ considered that neomycin had no genotoxicity relevant to human health and thus it was possible to specify the ADI.
Major adverse effect of neomycin observed in chronic toxicity and carcinogenicity study was hearing impairment. Carcinogenicity was not observed. The kidney injury was observed in subacute toxicity study, though it is a reference.
No adverse effect on the reproductivity was observed. It should be taken as a reference that no teratogenicity was observed in developmental toxicity study in rats.

FSCJ specified toxicological ADI of neomycin to be 0.06 mg/kg bw/day applying a safety factor of 100 to the NOAEL of 6 mg/kg bw/day that was obtained in 90-day toxicity study for ototoxicity in guinea pigs.
Microbiological ADI was estimated to be 0.036 mg/kg bw/day.

FSCJ specified the ADI of semduramicin as 0.036 mg/kg bw/day as the microbiological ADI is smaller than the toxicological ADI.