Nitrofurantoin

Nitrofurantoin is a widely used drug for the treatment of urinary tract infections.

Nitrofurantoin passed the animal data screen, underwent a preliminary toxicological evaluation, and is being brought to the Carcinogen Identification Committee for consultation. This is a compilation of the relevant studies identified during the preliminary toxicological evaluation.

Epidemiological data

- Hypothesis-generating cohort screening study for drug-cancer associations: Selby et al. (1989)
- Case report of benign liver tumor: Anttinen et al. (1982)

Animal carcinogenicity data

Long-term feed studies

- Two-year studies in mice
  - Male and female B6C3F1 mice: NTP (1989)
  - Male and female BDF1 mice: Ito et al. (1983), as cited by NTP (1989, p. 21)
- Twenty-two-month studies in male and female Swiss mice: Butler et al. (1990)

- Two-year studies in rats
  - Female Sprague-Dawley rats: Wang et al. (1984)

Transplacental administration studies

- Subcutaneous injection to pregnant ICR female mice (offspring sacrificed 32 weeks after birth): Nomura et al. (1984), as cited by IARC (1990, p. 215)

Other relevant data

- Genotoxicity
  - Salmonella typhimurium mutagenicity assays: NTP (1989)
  - Mouse lymphoma cell mutagenicity assay: NTP (1989)
  - Chinese hamster ovary (CHO) cell assay for sister chromatid exchange: NTP (1989)
• Structure activity considerations: Similar in structure to furan and nitrofurazone, which are Proposition 65 carcinogens.

Reviews

• IARC (1990)

References


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1 Copies of these listed references, as either the abstract, the relevant sections of the publication, or the complete publication, have been provided to members of the Carcinogen Identification Committee. These references have been provided in the order in which they are discussed in this document.