

Active Pharmaceutical Ingredient and Impurity Profiling Paracetamol

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Abstract: *The first paracetamol was created in 1877, or even 1852. In both the US and Europe, it is the most frequently prescribed drug for pain and fever. It is listed as one of the Essential Medicines by the World Health Organization. Tylenol and Panadol are just a couple of the brand names for the generic drug paracetamol, which is also sold under numerous names. It received more than 5 million prescriptions in 2020, ranking it as the 118th most popular drug in the country. Acetaminophen, usually referred to as paracetamol, is a drug used to treat fever and mild to moderate discomfort. Tylenol and Panadol are examples of popular brand names. The benefits of paracetamol use for fever are unclear because, at a typical dose, it only modestly lowers body temperature; in that regard, it is inferior than ibuprofen. Acute mild migraines may be helped by paracetamol, however recurring tension headaches may only be minimally relieved. Ibuprofen is superior to paracetamol in terms of effectiveness for post-surgical pain management. The medicine of choice for lowering fever is paracetamol. It's unclear whether paracetamol has any advantages in musculoskeletal problems like osteoarthritis and backaches. When used to treat mild to moderate pain, paracetamol can help with headaches, muscle pains, minor arthritic pain, toothaches, and discomfort from the common cold, the flu, sprains, and dysmenorrhea. It is particularly advised for acute mild to moderate pain because there is little evidence to support its use in the treatment of chronic pain. At a dose of 4gram per day, paracetamol may marginally elevate systolic blood pressure in hypertensive patients. Although it's uncertain whether paracetamol is the real reason of this increase, studies show that children of mothers who used paracetamol for an extended period of time during pregnancy had higher rates of asthma, developmental, and reproductive issues. A maximum of three to four grammes per day is advised for adults. Toxicity from higher doses, including liver failure, is a possibility. Most drug overdoses in the US, UK, Australia, and New Zealand are caused by paracetamol poisoning, which is the leading cause of acute liver failure in the Western world.*

Keywords: Paracetamol

Objective:

1. To synthesise paracetamol from p-amino phenol, an antipyretic drug
2. Describing paracetamol
3. To use chromatography to evaluate the impurity profile

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