

Flunitrazepam

Otherwise known as Rohypnol

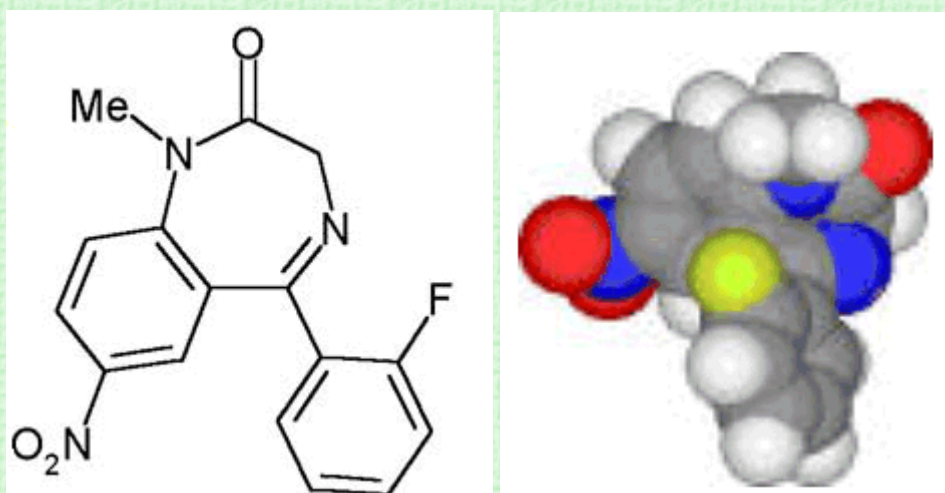
the Date Rape Drug

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Molecule of the Month - June 2004

Also available: [Chime Enhanced](#), [VRML](#) and [Jmol](#) versions.

Flunitrazepam has the formula: $C_{16}H_{12}FN_3O_3$ - 5-(2-Fluorophenyl) 1,3-dihydro-1-methyl-7-nitro-2H-1,4-benzodiazepin-2-one.



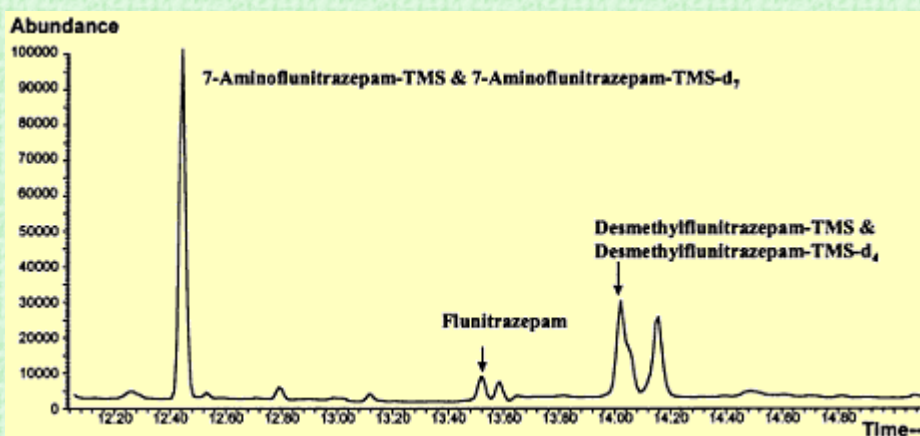
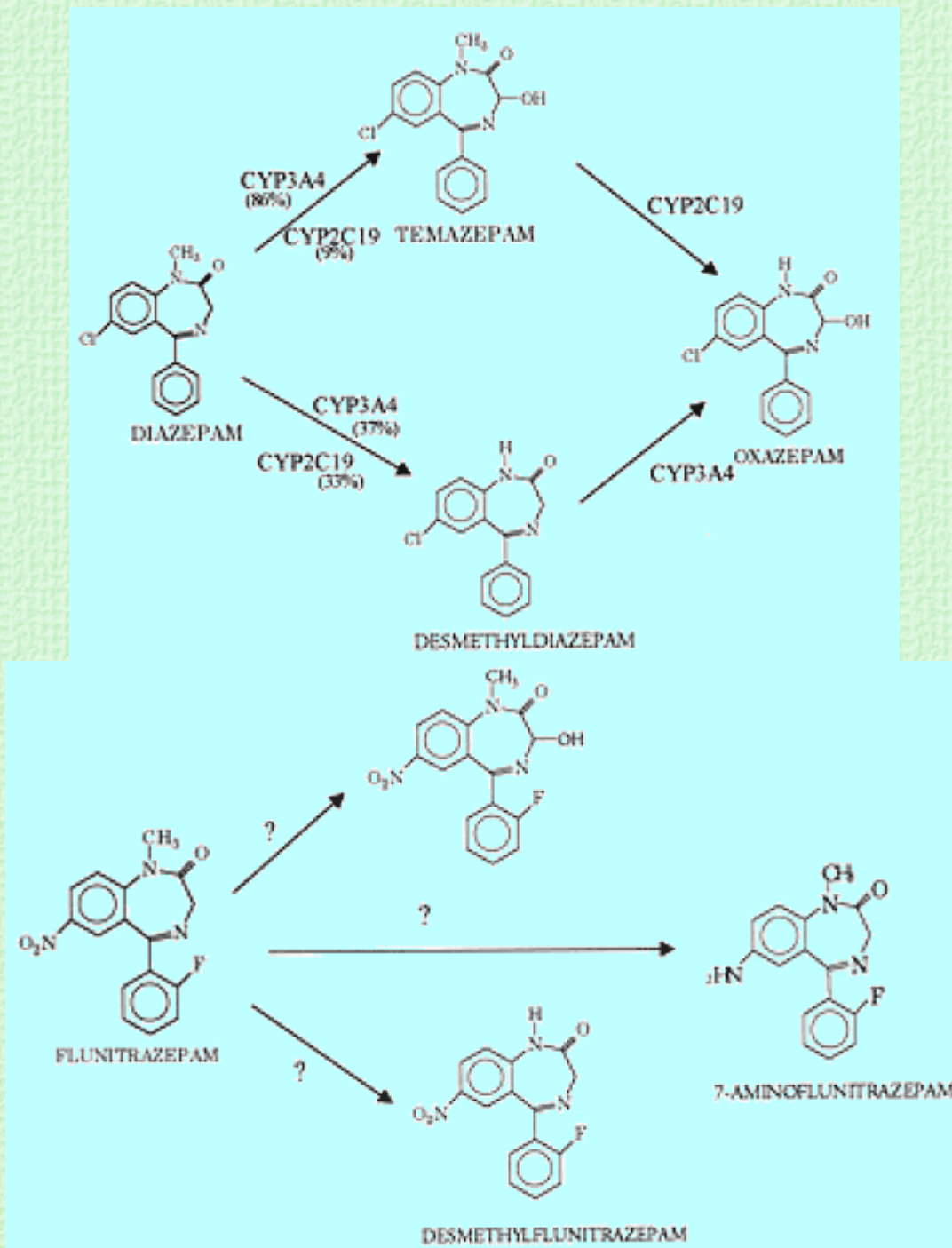
Structure of Rohypnol - [click for 3D model](#)

It is a white solid, with a melting point of between 166-167°C, a molecular weight of 313.3, and is soluble in ethanol. Rohypnol is also known as Roofies, the "Date Rape Drug", Rophies, Roach, Rope, R2, Mexican Valium. Flunitrazepam is a benzodiazepine (central nervous system depressant), similar to valium, but 10 times stronger. Rohypnol's medical use is as a pre-operation anaesthetic or strong sleeping pill, but stronger doses can bring on amnesia. It takes effect very quickly - sometimes as quick as 10 minutes after being taken - and reaches its peak eight hours later when it can render a person totally unconscious. However, it has become known as a date rape drug, because it is colourless, odourless and tasteless, making it ideal for spiking drinks undetected. It causes sedation or euphoria in approximately 20 to 30 minutes.

Chemically, Flunitrazepam, temazepam, triazolam and diazepam (valium) are all structurally related benzodiazepines, with the same mechanism of action. They enter the brain rapidly and work by binding to a specific type of protein (receptor), which is widely distributed in the groups of nerve cells involved in anxiety, memory, sedation and coordination. The normal role of these receptors is to respond to an abundant and important neurotransmitter called GABA (γ -amino butyric acid). When GABA activates its receptors they reduce nerve activity in the brain. Benzodiazepines bind tightly to a specific part of the GABA receptor, called the benzodiazepine site, which is distinct from the GABA binding site. When bound, benzodiazepines enhance the effect of GABA so they shut down brain activity more effectively, which broadens their spectrum of tranquillising actions.



Flunitrazepam has a long half-life (18-26 hours) and it also has an active metabolite (like valium) that lasts 36-200 hours. Peak plasma concentrations occur after 45 minutes, so it is a fast acting benzodiazepine.



Chromatogram of Flunitrazepam, 7-aminoflunitrazepam-TMS, Desmethyflunitrazepam-TMS and Internal Standards

The Effects:

- Rohypnol takes effect within 20 to 30 minutes of administration and lasts up to eight hours.

- It acts as a sedative by inducing amnesia, relaxing the muscles, and slowing down psychomotor responses.
- It can also cause decreased blood pressure, drowsiness, visual disturbances, dizziness, confusion, gastrointestinal disturbances and urinary retention.
- Tolerance is likely with repeated use, which means you need more to get the same effect.
- If combined with alcohol, Rohypnol can increase the feeling of drunkenness and lower inhibitions.
- The inability to remember events that happened, whilst under the influence of the drug, hence its reputation as the date rape drug.

Rohypnol is often mixed with beer, to enhance the feeling of drunkenness, and it has been reported to be used in combination with marijuana and cocaine, as well as heroin. Rohypnol is a relatively inexpensive drug, and this has partly led to its popularity. However, it is illegal to possess the drug without prescription or medical explanation. There are multiple forms of the drug on the market. The original tablets, marketed by the pharmaceutical company [Hoffman La Roche](#) (see picture on right), look like aspirin and dissolve rapidly in liquid. In response to widespread abuse of this drug, Hoffman La Roche changed the tablets; the new tablets dissolve more slowly and will turn a drink blue. "Copycat" flunitrazepam tablets have also been produced by pharmaceutical companies in South Africa, South America, and possibly Egypt - the copycat tablets are reddish-brown to white and dissolve well in liquids.



Rohypnol tablets are white and are single- or cross-scored on one side with "ROCHE" and "1" or "2" encircled on the other.

(Graphics courtesy of the U.S. Dept. of Justice)



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