

Metamorphine - a New Opioid

New Structure – New Effects

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Technology

A new opioid with structure elements of morphine and metamizol (dipyrone) was synthesized. The molecule is stable in aqueous solutions. The substance was first found in patient controlled analgesia (PCA) bags with admixtures of morphine and metamizol, which were used by cancer patients. In those bags the morphine content decreased to less than 80% while the 20% rest was converted totally to »metamorphine«. The patients who received these PCA bags did not notice a loss of the analgetic potency or other side effects.

Innovation

- new opioid molecule
- stable formulation
- possible pharmacological advantages as
 - analgetic potency (combination of peripher and central effects)
 - less addictive potency (prodrug)
 - less sedation
 - less respiratory depression
 - less obstipation

Application

- qualitative optimization of opioid therapies for different relation between μ , κ - and δ -opioid receptors
- kinetic optimization of opioid therapies because the substance seems to be a prodrug

Market Potential

- Cancer patients
- Fibromyalgia patients
- Postoperative patients
- Dyspnoe (Palliative Care)
- Withdrawal symptoms

Responsible Scientist

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Patent Status

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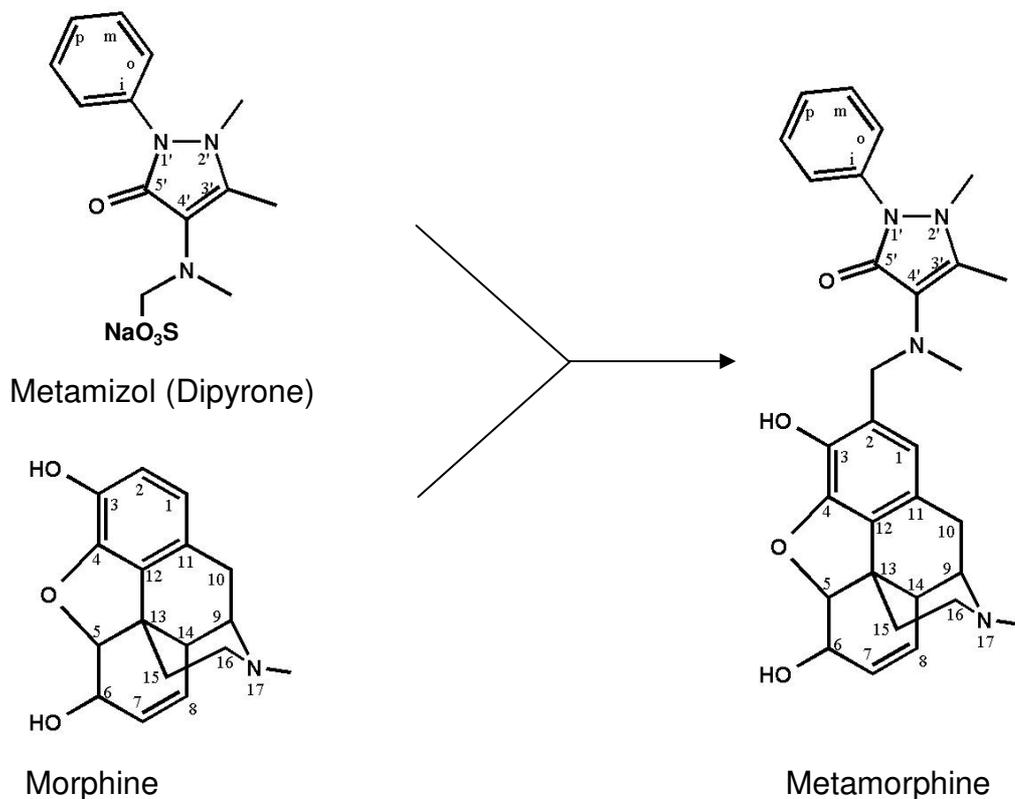
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Synthesis of Metamorphine:



Possible pharmacological effects

Because of experience with cancer patients who used patient controlled analgesia (PCA) with admixtures containing morphine, metamizol and metamorphine, it is very likely that metamorphine or its metabolites have analgetic potency. As morphine is not expected as a metabolite of metamorphine, the effects to μ -, κ - and δ -opioid receptors may be different. Furthermore metamorphine or its metabolites with structure elements of metamizol probably have analgetic or spasmolytic potency.

Metamorphine may be the first molecule that combines effects of opioid and non-opioid analgesics.