Ropivacaine or Naropin ®
Some Analytical Information

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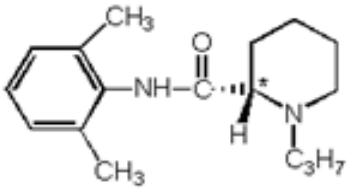
Although this is not a new drug, our laboratory recently encountered a case where ropivacaine was detected in our basic drug screen. Apparently this is not prevalent in the post-mortem arena. *Naropin* (ropivacaine) is a local anesthetic that was introduced to the market in 1996 by AstraZeneca Pharmaceuticals.

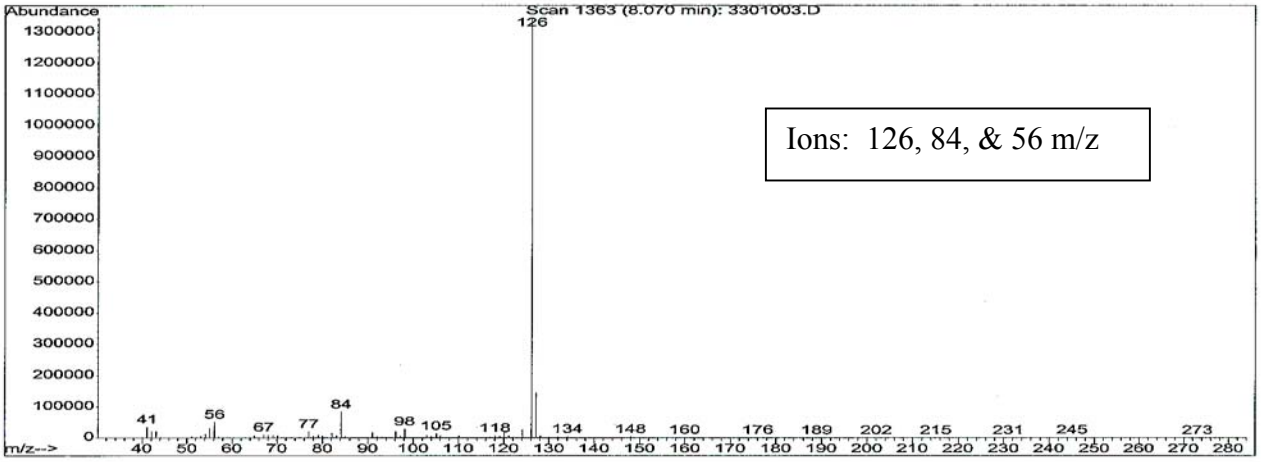
Naropin is an injectable drug used for various surgical procedures, labor/delivery, or as a post-surgery analgesic. Ropivacaine is the only long acting anesthetic that can be infused up to 72-hours for post-operative pain management. It is less cardiotoxic than other common anesthetics on the market, appears to have a faster return of motor functions, and the undesirable side effects are very limited. The product is available in 2, 5, 7.5 and 10mg/mL concentrations.

A stereoisomer of Mepivacaine, *Naropin* is the world's first enantiomerically pure local anesthetic (an S-form enantiomer).

Chemical Properties



- S-(-)-1-propyl-2',6'-pipecoloxylidide hydrochloride monohydrate.
- $C_{17}H_{26}N_2O{\bullet}HCl{\bullet}H_2O$
- Molecular weight 274
- Formula weight 328
- pKa = 8.07 in 0.1 M KCl solution
- Ropivaciane HCl is a basic drug that can be extracted with an n-butylchloride liquid/liquid extraction and can be detected after an acid back extraction.
- Detection of Ropivacaine is possible on either a GC/NPD or GC/MS.



Mass Spectra as per the American Academy of Forensic Sciences (AAFS) library

Elution Order: Dextromethorphan, Amitriptyline, **ROPIVACAINE**, Nortriptlyine, Norchlorcyclizine

Also published in California Association of Toxicologists Proceedings