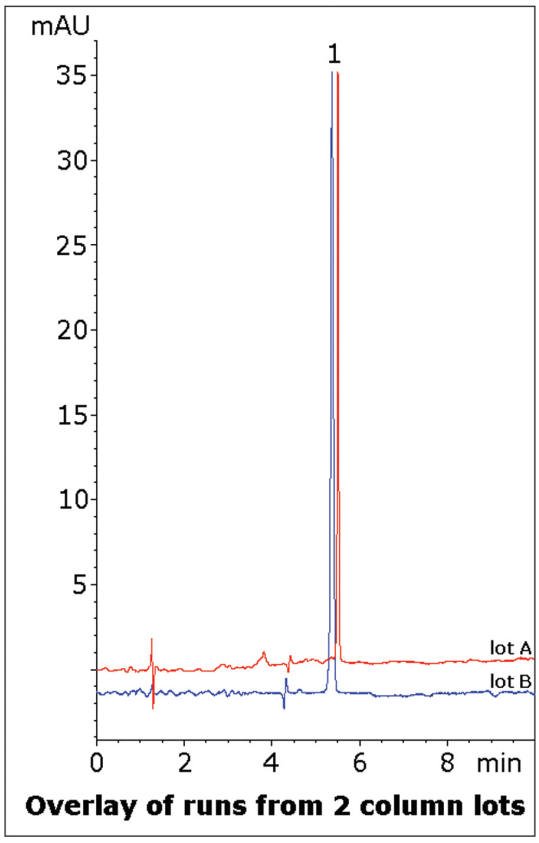
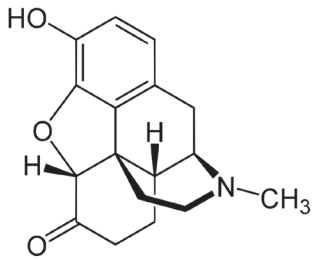
# Hydromorphone Tablet

## Assay method for opioid




**Overlay of runs from 2 column lots**




Hydromorphone

**Note:** Hydromorphone is a derivative of morphine and is used as an analgesic to treat moderate to severe pain. It is available by prescription under various trade names such as Palladone® and Dilaudid®.

## Method Conditions

**Column: Cogent Diamond Hydride™**, 4µm, 100Å

**Catalog No.:** 70000-7.5P

**Dimensions:** 4.6 x 75 mm

**Solvents:** A: DI $H_2O$ / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

**Gradient:**

| time (min.) | %B |
|---|---|
| 0 | 95 |
| 1 | 95 |
| 6 | 40 |
| 7 | 95 |

**Post Time:** 3 min

**Injection vol.:** 2µL

**Flow rate:** 1.0 mL/min

**Detection:** UV 280 nm

**Sample:** 2mg strength hydromorphone tablet was ground and added to a 10mL volumetric flask. A portion of 50/50 solvent A/ solvent B diluent was added and the flask was sonicated 10 min. It was then diluted to mark and mixed. A portion was filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.).

**Peak:** 1. Hydromorphone

**$t_0$:** 0.9 min

## Discussion

The USP method for hydromorphone tablet assay calls for sodium dodecyl sulfate (SDS) in the mobile phase. In addition to being LCMS incompatible, SDS is time consuming to load and unload from the HPLC column. The method conditions shown here however can be used in LC-MS, which is advantageous since hydromorphone is often analyzed in blood or urine matrices.

Data from two column lots is shown to illustrate lot-to-lot consistency.



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