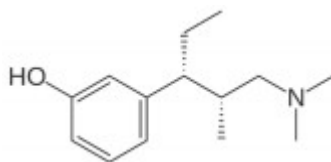
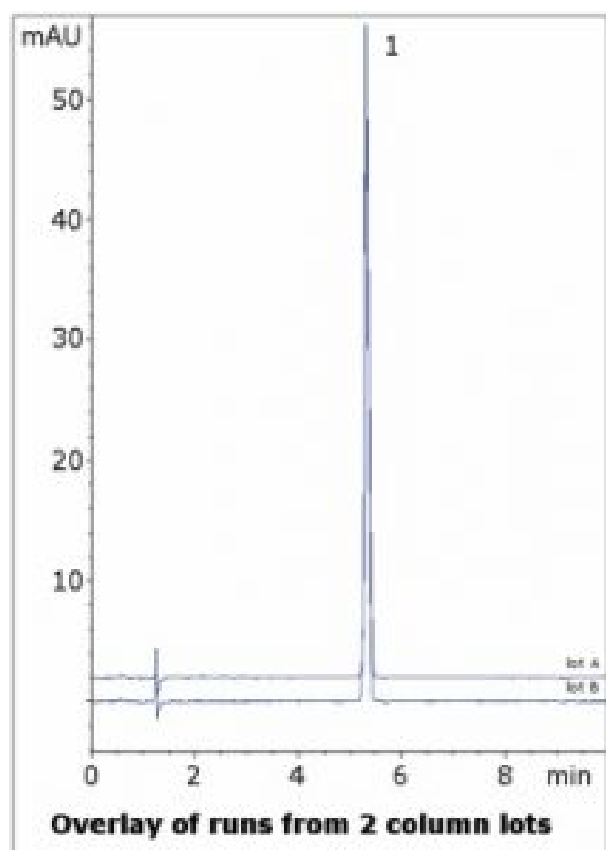


## Tapentadol HCl Tablet Analyzed by HPLC – AppNote

### Assay Method for the Analgesic Nucynta

Tapentadol can be a problematic compound for HPLC analysis due to the Amine functional group. Tertiary amines are often particularly difficult to obtain a good peak shape using Reversed Phase methods. Peak tailing has been reported in several published papers in the literature.

With this Method, a sharp Peak is obtained due to the unique retention mode. Data from two column lots shown in the figure illustrates the reproducibility of the Method and its robustness.



Tapentadol HCl

Peak:

### Method Conditions

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

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

**Dimensions:** 4.6 x 75mm

**Mobile Phase:**

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Email: customers@mtc-usa.com

Website: www.mtc-usa.com

A: DI Water / 0.1% Formic Acid (v/v)

B: Acetonitrile / 0.1% Formic Acid (v/v)

**Gradient:**

Time (minutes)	%B
0	95
1	95
6	40
7	95

**Post Time:** 3 minutes

**Injection vol.:** 1 $\mu$ L

**Flow rate:** 1.0mL / minute

**Detection:** UV @ 271nm

**Sample Preparation:** 75mg strength Nucynta® tablet was ground and weighed in a 25mL volumetric flask. A portion of 50:50 Solvent A / Solvent B diluent was added and the flask was sonicated 10 minutes. It was then diluted to mark and filtered with a 0.45 $\mu$ m Nylon Syringe Filter (MicroSolv Tech Corp.). The filtrate was diluted 1:5 for HPLC injections.

**t<sub>0</sub>:** 0.9 minutes

**Note:** Tapentadol is an analgesic compound used to treat moderate to severe pain. Its efficacy is due to two modes of action: one is an agonist of the  $\mu$ -opioid receptor and another as a norepinephrine reuptake inhibitor.



**Attachment**

**No 234 Nucynta Tapentadol HCl Tablet Analyzed by HPLC pdf** 0.3 Mb [Download File](#)

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