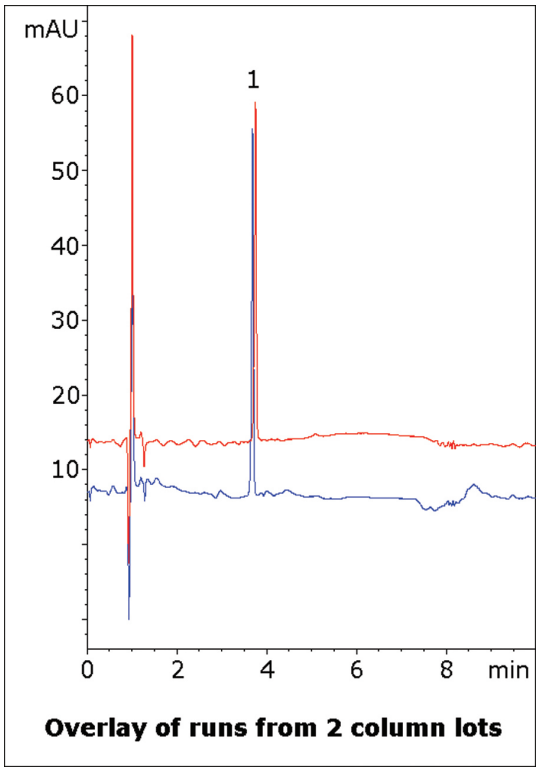
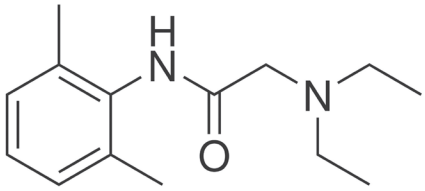
Lidocaine

Assay method for Solarcaine® gel extract



Overlay of runs from 2 column lots



Lidocaine

Note: Lidocaine is a local anesthetic used in a variety of applications such as sunburn relief and numbing for dental procedures. As such, several types of formulations are used such as topical creams/gels and injectable solutions. Trade names include Solarcaine and Xylocaine®.

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% trifluoroacetic acid (v/v)
B: Acetonitrile / 0.1% trifluoroacetic acid (v/v)

Gradient:

time (min.)	%B
0	97
1.5	97
6	40
7	97

Post Time: 3 min

Injection vol.: 2µL

Flow rate: 1.0 mL/min

Detection: UV 220 nm

Sample: 250mg Solarcaine gel containing 0.5% lidocaine HCl was weighed in a 25mL volumetric flask. A portion of 50/50 solvent A / solvent B diluent was added and the flask was sonicated 15 min at 40 °C. It was then diluted to mark and filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.).

Peak: 1. Lidocaine

t_0: 0.9 min

Discussion

This method shows how lidocaine hydrochloride (HCl) from a gel extract can be easily retained with the Cogent Diamond Hydride column. The compound has a tertiary amine but still gives an excellent peak shape, which is often difficult to obtain with ordinary columns for analytes like this. A gradient was used to ensure components from the gel extract matrix do not build up on the column and adversely affect robustness or column life. The column robustness is demonstrated by the overlay of injections from two different Cogent Diamond Hydride lots.

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