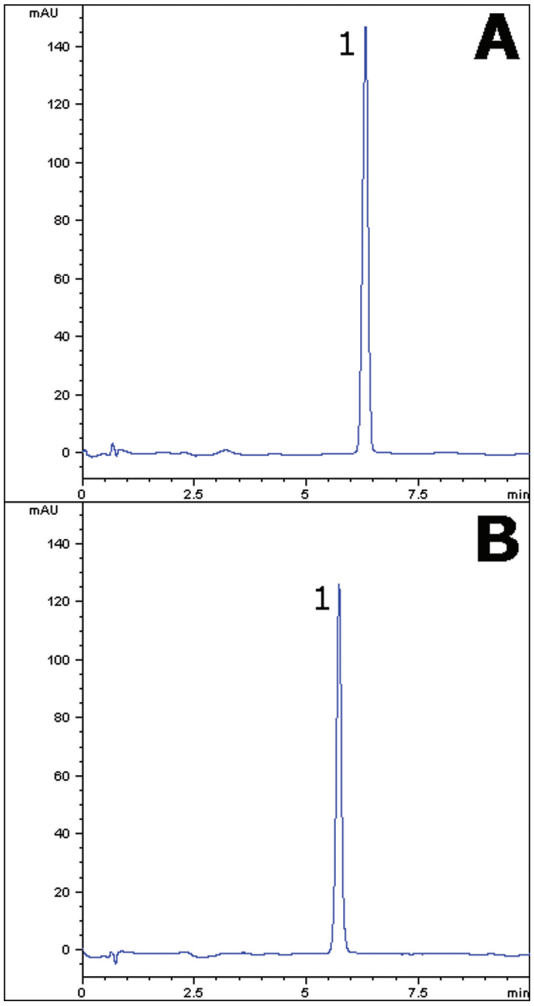
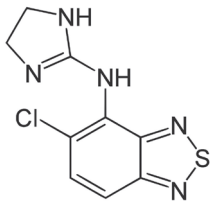
Tizanidine HCl Method Transfer

Use of near UHPLC column for improved results





Tizanidine

Note: Tizanidine is a centrally acting α2-adrenergic agonist used to treat spasms, cramping, tightness of muscles, and related conditions. It is available under the trade name Zanaflex® as well as generic versions.

Method Conditions

Column: Fig. A: Cogent Diamond Hydride 2.0̄™, 2.2µm, 120Å
Fig. B: Cogent Diamond Hydride™, 4µm, 100Å

Catalog No.: Fig. A: 70200-05P-2; **Fig. B:** 70000-05P-2

Dimensions: 2.1 x 50 mm

Mobile Phase: 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.: 0.2 microL

Flow rate: 0.3mL/min

Detection: UV 230 nm

Sample: 4mg strength tizanidine HCl tablet was ground and weighed in 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 filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.).

Peak: 1. Tizanidine HCl

t_0: 0.6 min

Discussion

This challenging compound has several amine groups and can be problematic to analyze by HPLC. Here an excellent peak shape is obtained using the Cogent Diamond Hydride 2.0̄ column. The efficiency is higher on the 2.2µm phase compared to a standard 4µm column, leading to increased sensitivity. The method conditions are compatible with LC-MS as well.

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