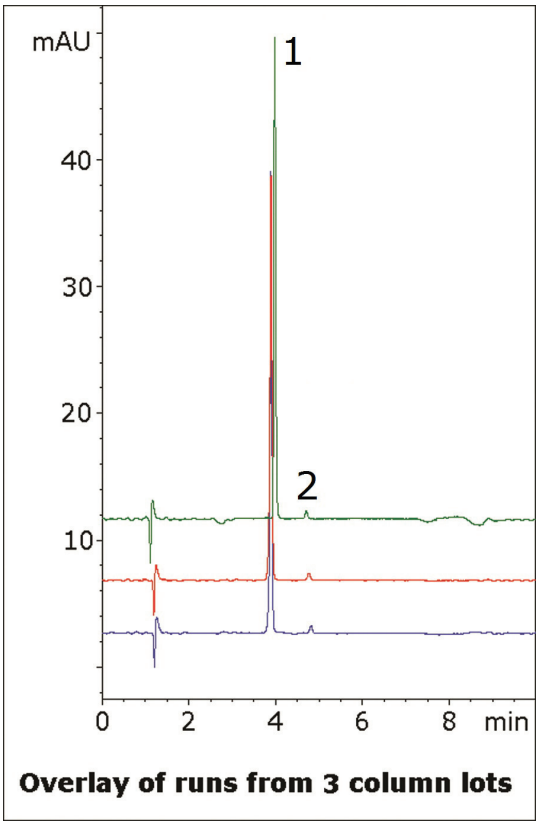
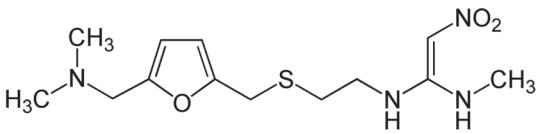
Ranitidine Tablet

Excellent peak shape of API from a real formulation



Overlay of runs from 3 column lots



Note: Ranitidine is an acid reducer that is available over-the-counter. It works as a histamine H_2-receptor antagonist, in contrast to other acid reducers such as omeprazole which are proton pump inhibitors. It is sold under the trade name Zantac®.

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	95
1	95
6	50
7	95

Post Time: 3 min

Injection vol.: 2µL

Flow rate: 1.0 mL/min

Detection: UV 313 nm

Sample: 150mg strength ranitidine HCl tablet was ground and weighed in a 50mL 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.). The filtrate was diluted 1:100 for injections.

Peaks: 1. Ranitidine
2. matrix component

t_0: 0.9 min

Discussion

Ranitidine has several amine groups that contribute to significant tailing with many reversed phase columns. However, the peak shape obtained here is excellent and far surpasses typical results obtained using conventional HPLC stationary phases. Data is shown here using an extract from an actual tablet formulation, illustrating how the excellent peak shape can be obtained for real samples. In addition, three column lots were used to demonstrate stationary phase reproducibility.

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