Legacy L1

Legacy L1 Application Examples

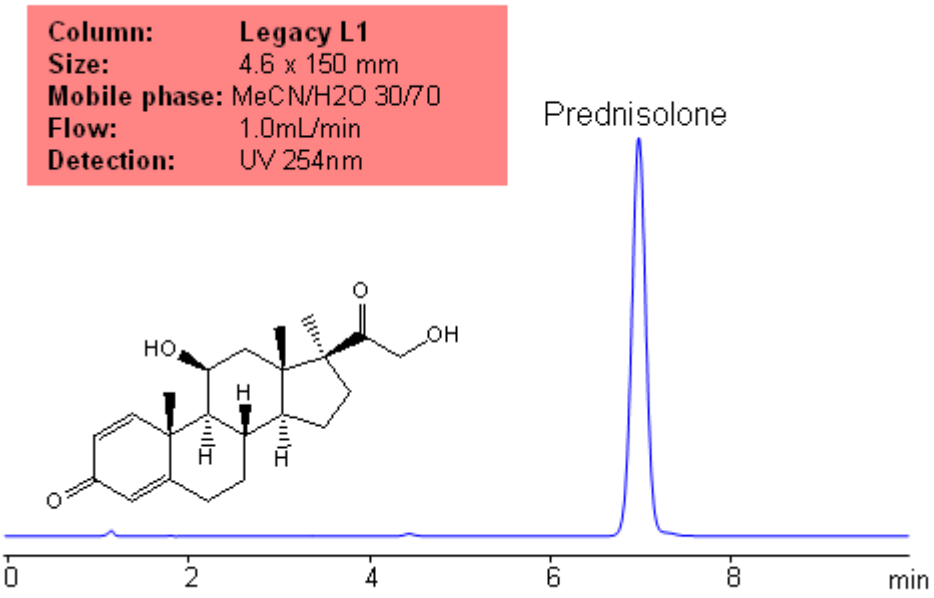
Legacy L1 columns meets the USP definition and has a stationary phase that consists of octadecyl silane chemically bonded to porous silica or ceramic particles (1.5 to 10µm).

Legacy L1 columns are available in all standard dimensions

Column IDs:	**22.0mm, 10.0mm, 4.6mm, 3.2mm, 2.1mm, 1.0mm, 0.5mm, 0.25mm**
Column Lengths:	**250mm, 150mm, 100mm, 50mm, 25mm, 10mm**
Particles:	**5µm**
Pores:	**100Å**

Source: http://www.sielc.com/Products_Legacy.html

USP Methods for the Analysis of Prednisolone with the Legacy L1 Column



Application Notes: Prednisolone is a metabolite of prednisone. Prednisone is a common drug used to treat inflammatory diseases. The USP HPLC method for the separation of pyridoxine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

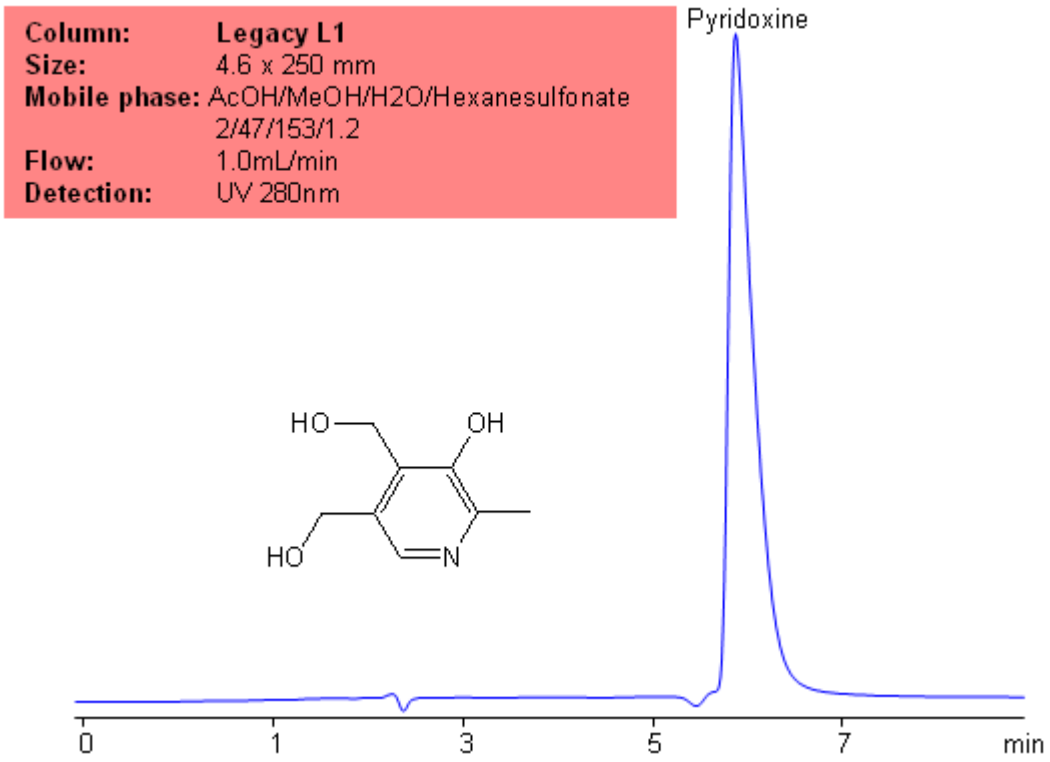
Application compounds: Prednisolone

Mobile phase: MeCN/H20 30/70

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Pyridoxine for the Legacy L1 Column



Application Notes: Pyridoxine is part of the vitamin B complex group. Pyridoxine is important in the body's daily function as it regulates many enzymatic reactions. The USP HPLC method for the separation of pyridoxine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

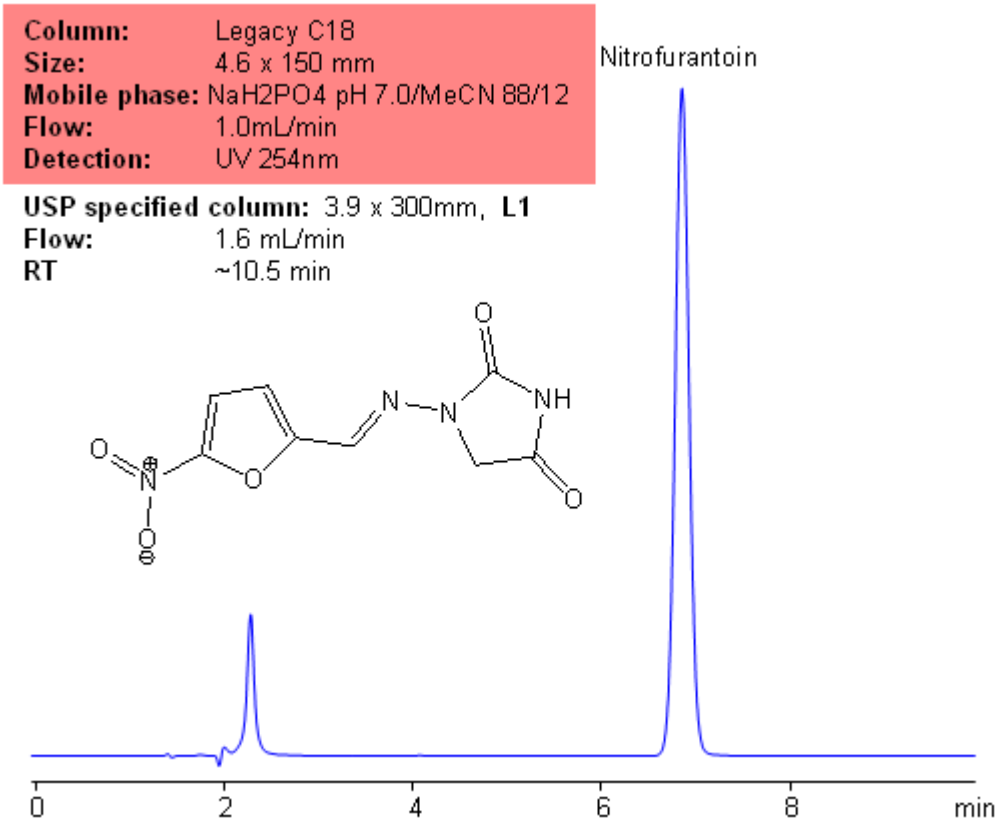
Application compounds: Pyridoxine

Mobile phase: AcOH/MeOH/H2O/Hexanesulfonate (2/47/153/1.2)

Detection technique: UV

Reference: USP35- NF30

USP Methods for Nitrofurantoin for the Legacy L1 Column



Application Notes: Nitrofurantoin is an antibiotic used to treat urinary tract infections and E. coli. The USP HPLC method for the separation of nitrofuranton was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

Application compounds: Nitrofurantoin

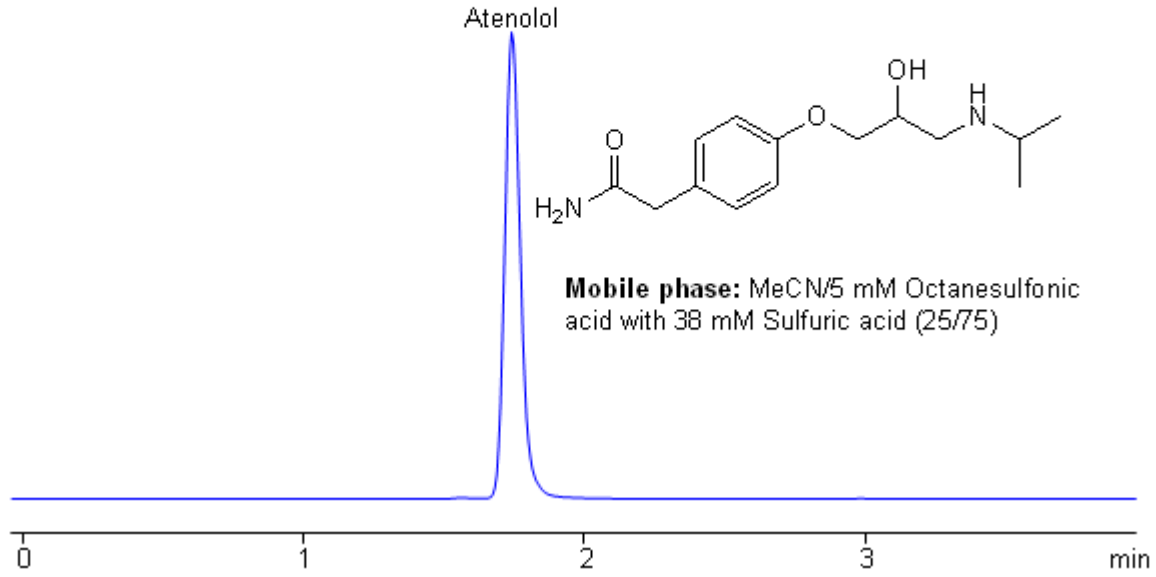
Mobile phase: NaH2PO4 pH 7.0/MeCN 88/12

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Atenolol using the Legacy L1 Column

Column:	**Legacy L1**
Size:	4.6 x 150 mm
Mobile phase:	MeCN/5 mM Octanesulfonic acid with 38 mM Sulfuric acid (25/75)
Flow:	1.0mL/min
Detection:	UV 270 nm



Application Notes: Atenolol is a beta blocker used to treat heart disease as well as thyroid disorders and alcohol withdrawal. The USP HPLC method for the separation of atenolol was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

Application compounds: Amoxicillin

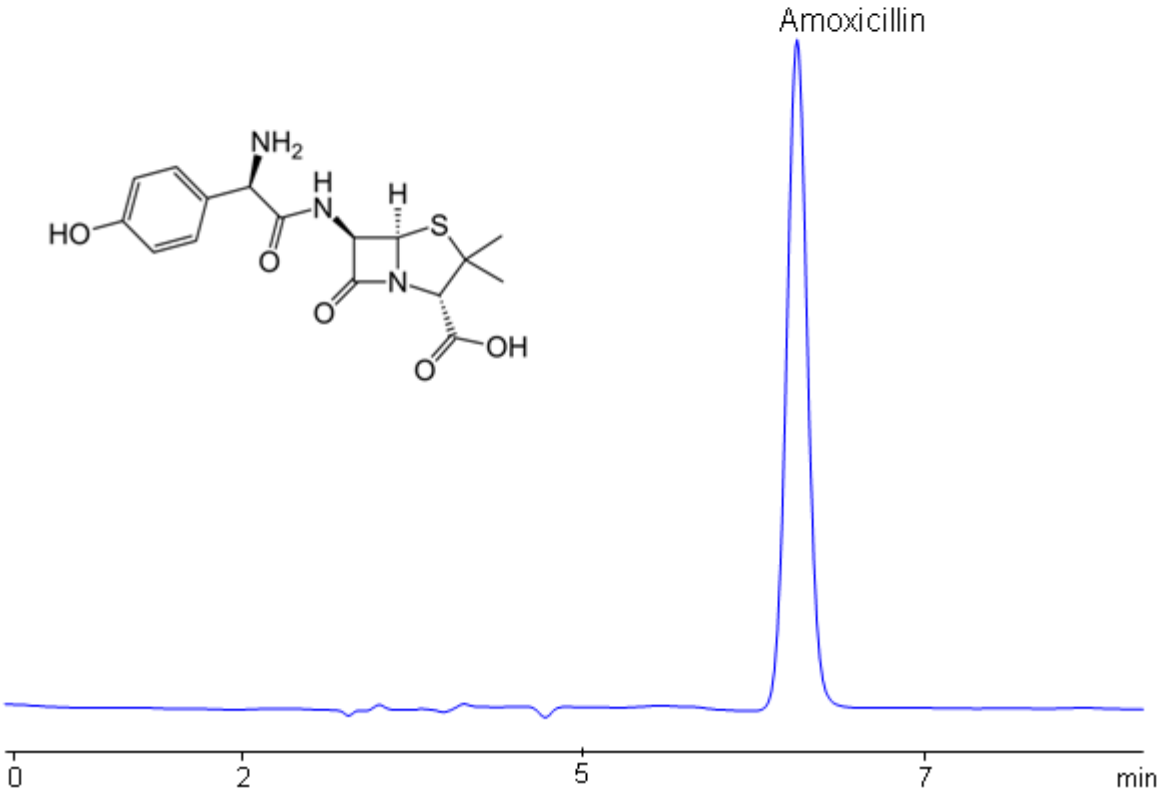
Mobile phase: MeCN/5mM octanesulfonic acid with 38mM sulfuric acid (25/75)

Detection technique: UV

Reference: USP35: NF30

USP Method for the Analysis of Amoxicillin using the Legacy L1 Column

Column:	**Legacy L1**
Size:	4.6 x 150 mm
Mobile phase:	MeCN/50 mM Dibasic sodium phosphate pH 5.0 (4/96)
Flow:	1.0mL/min
Detection:	UV 230 nm



Application Notes: Amoxicillin is one of the most commonly prescribed antibiotics. It is often used for treating strep throat. According to USP methods, amoxicillin should not contain less than 900ug and no more than 1050ug of amoxicillin per mg. The USP HPLC method for the separation of amitriptyline was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

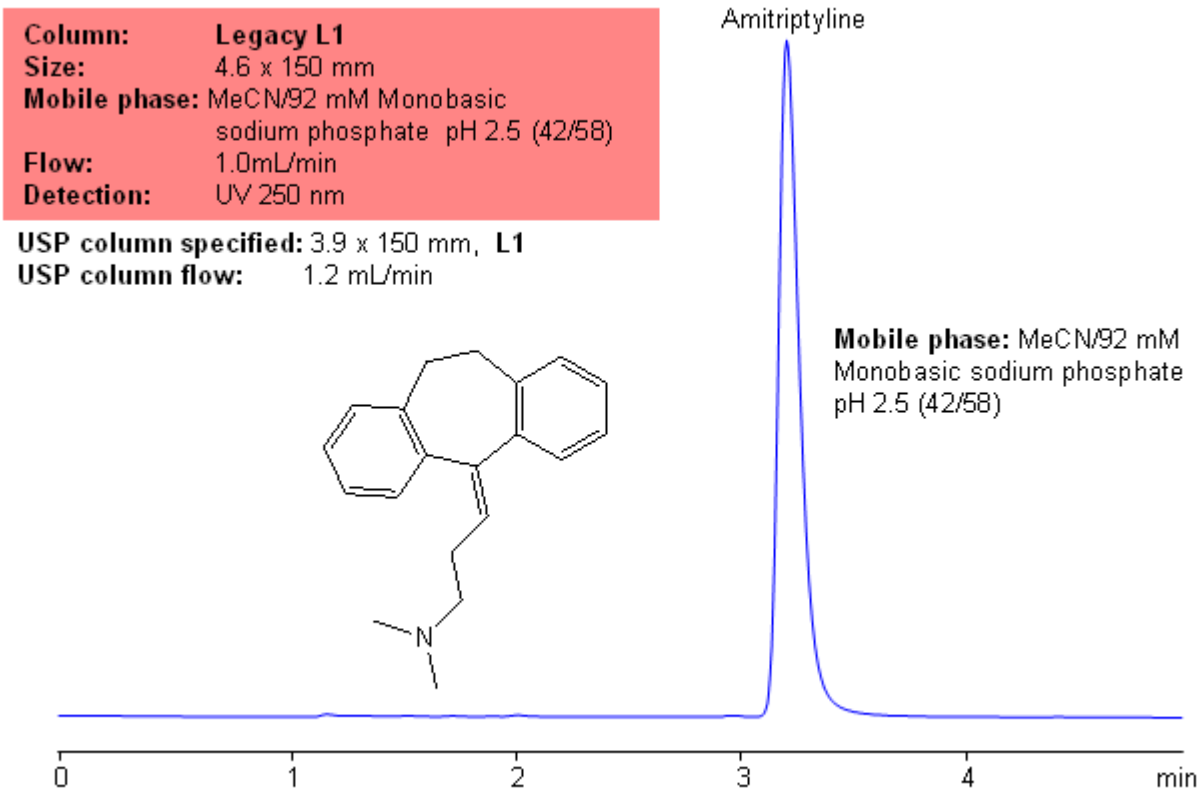
Application compounds: Amoxicillin

Mobile phase: MeCN/50 mM dibasic sodium phosphate

Detection technique: UV

Source: USP35: NF30

USP Methods for the Analysis of Amitriptyline using a Legacy L1 Column



Application Notes: Amitriptyline is a tricyclic antidepressant. While it is a older drug, it is still just as effective as newer SSRI's. According to the USP methods, amitriptyline hydrochloride conatin no less than 99% and no more than 100.5% of amitriptyline. The USP HPLC method for the separation of amitriptyline was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

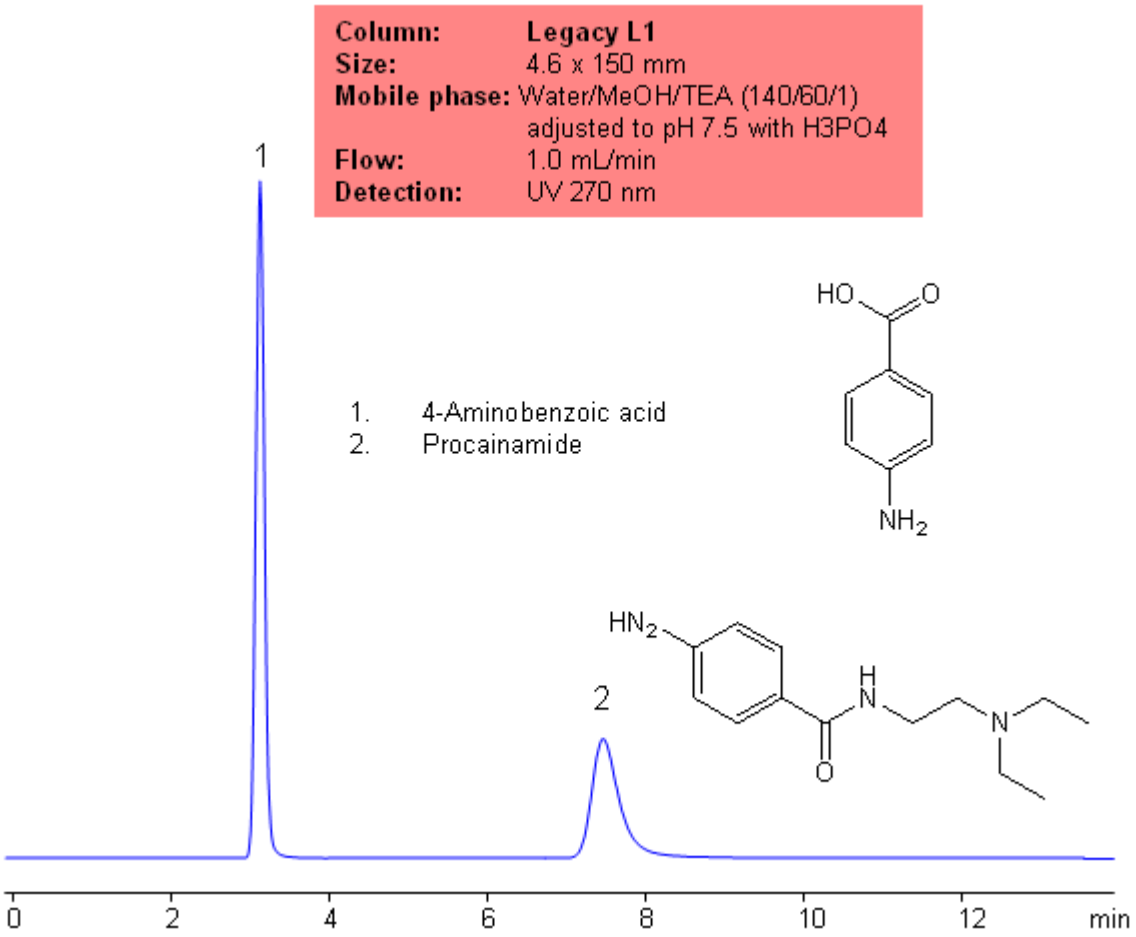
Application compounds: Amitriptyline

Mobile phase: MeCN/92mM monobasic sodium

Detection technique: UV

Reference: USP35: NF30

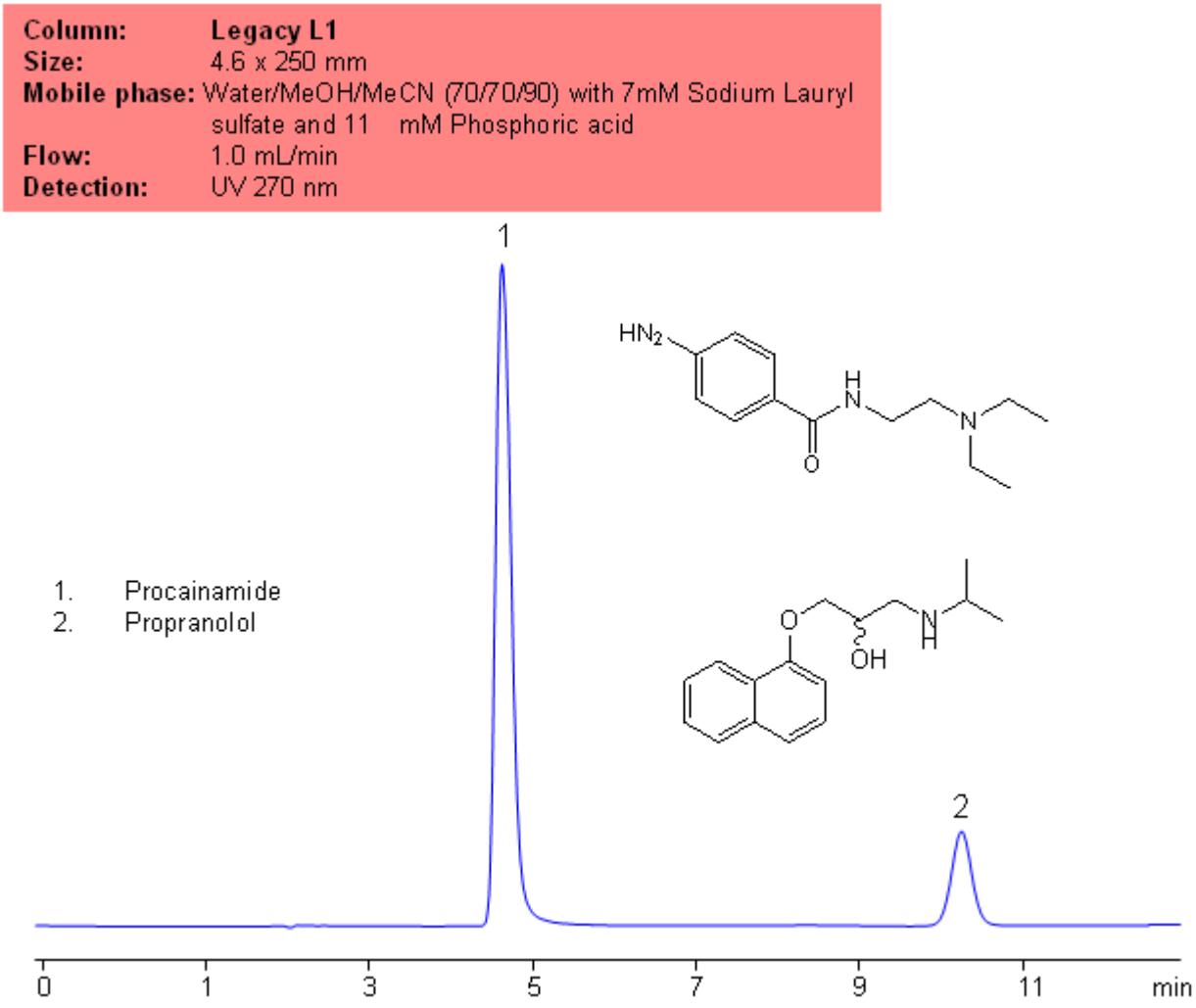
USP Methods for the Analysis of Procainamide



Application Notes: Procainamide is a common antiarrhythmic agent used to treat cardiac arrhythmias. According to USP methods procainamide hydrochloride contains not less than 98% and no more than 102% procainamide based on the dried basis. The USP HPLC method for the separation of procainamide and 4-aminobenzoic was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Reference: USP 35- NF30

USP Methods for the Separation of Propranolol and Procainamide using a Legacy L1 Column



Application Notes:
Propranolol is a common beta-blocker used for treating anxiety and hypertension, and procainamide is an antiarrhythmic drug. According to the USP methods, propranolol hydrochloride contain no less than 98% and no more than 101.5 percent of propranolol calculated on a dried basis. The USP HPLC method for the separation of phenylephrine and epinephrine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

Application compounds: Propranolol and procainamide

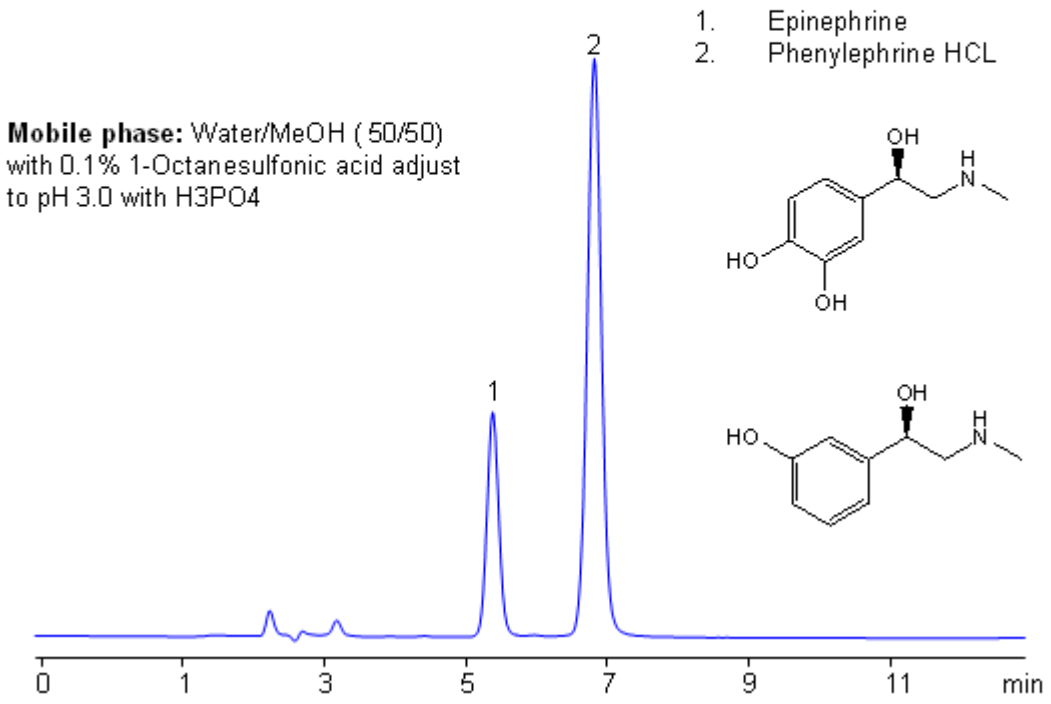
Mobile phase: Water/MeOH/MeCN (70/70/90) with 7mM sodium lauryl sulfate and 11 mM phosphoric acid

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Epinephrine Using the Legacy L1 Column

Column: **Legacy L1**
Size: 4.6 x 150 mm
Mobile phase: Water/MeOH (50/50) with 0.1% 1-Octanesulfonic acid adjust to pH 3.0 with H3PO4
Flow: 1.0 mL/min
Detection: UV 270 nm



Application Notes: Epinephrine is a synthetic adrenaline used to treat cardiac arrest and anaphylaxis. Phenylephrine is a decongestant and is often used instead of pseudoephedrine. According to the USP methods epinephrine contains no less than 97% and no more than 100.5 percent of epinephrine calculated on a dried basis. The USP HPLC method for the separation of phenylephrine and epinephrine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

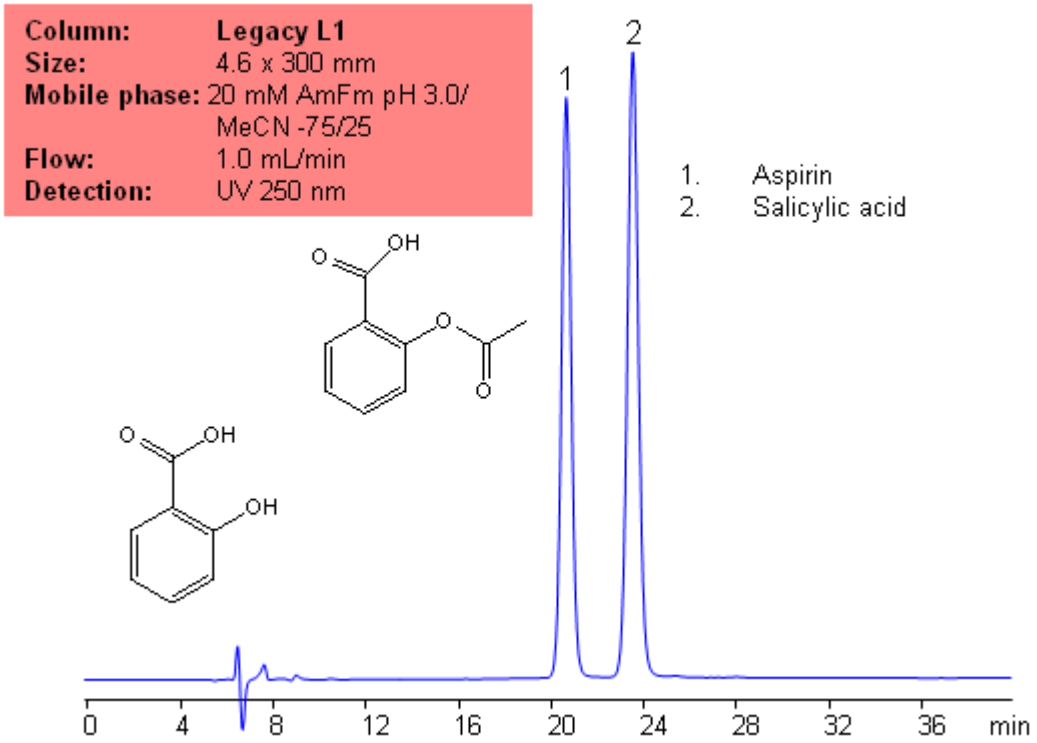
Application Columns: Legacy L1 C18 HPLC column

Application compounds: Epinephrine and Phenylphrine
Mobile phase: Water/MeOH (50/50) with 1% 1-Octanesulfonic acid adjust to pH 3.0 with H3PO4

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Aspirin Using Legacy L1 Column



Application Notes: Aspirin is one of the oldest analgesics. While it is one of the oldests analgesics, it is still widely used today, and is still one of the most common drugs. According to the USP methods, aspirin contains not less than 99.5% and no more than 100.5 percent of aspirin calculate on a dried basis. The USP HPLC method for the separation of aspirin was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

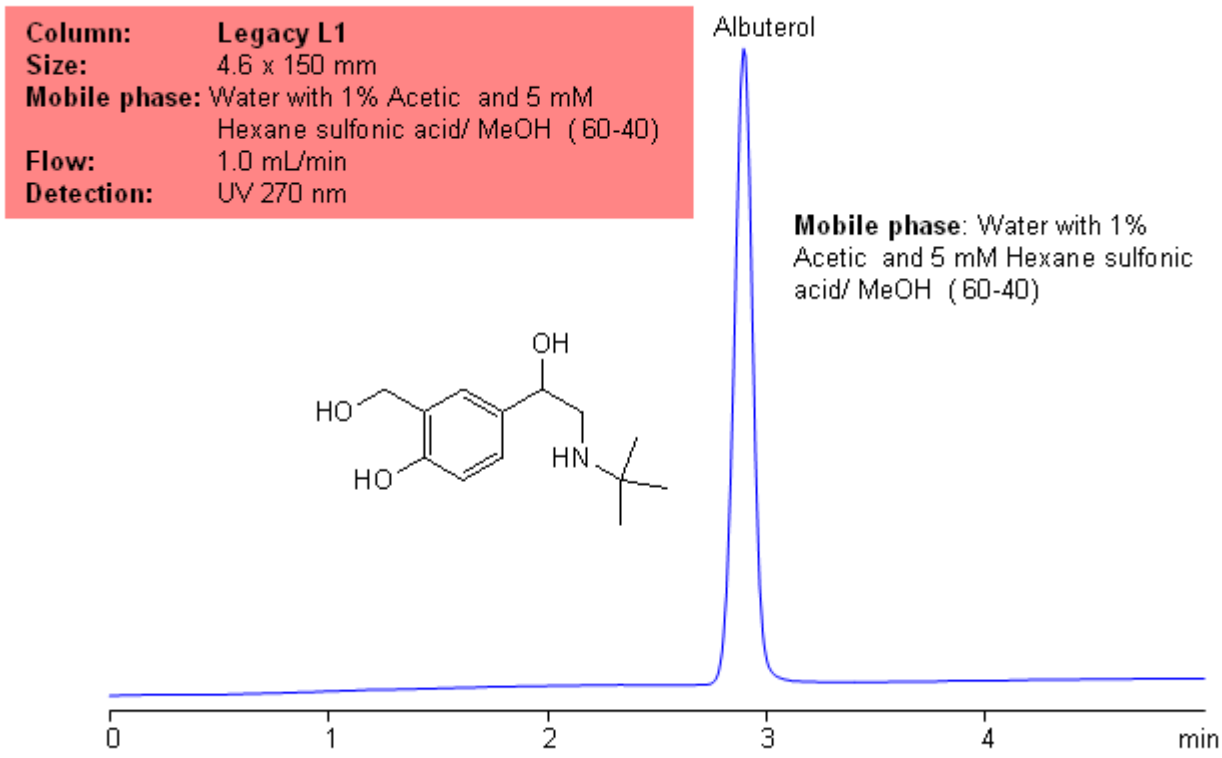
Application compounds: Aspirin and salicylic acid

Mobile phase: 20 mM AmFm pH 3.0/MeCN- 75/25

Detection technique: UV

Reference: USP35: NF30

USP Analysis of Albuterol Using a Legacy L1 Column



Application Notes: Albuterol is a well known drug used to treat bronchospasms. Albuterol come in many different forms, ranging from nebulizer to tablets. Albuterol is an important drug in combatting breathing problems. The USP methods for albuterol dictate that albuterol should not contain less than 98.5% and no more than 101% calculated on a dried basis. The USP HPLC method for the separation of albuterol was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

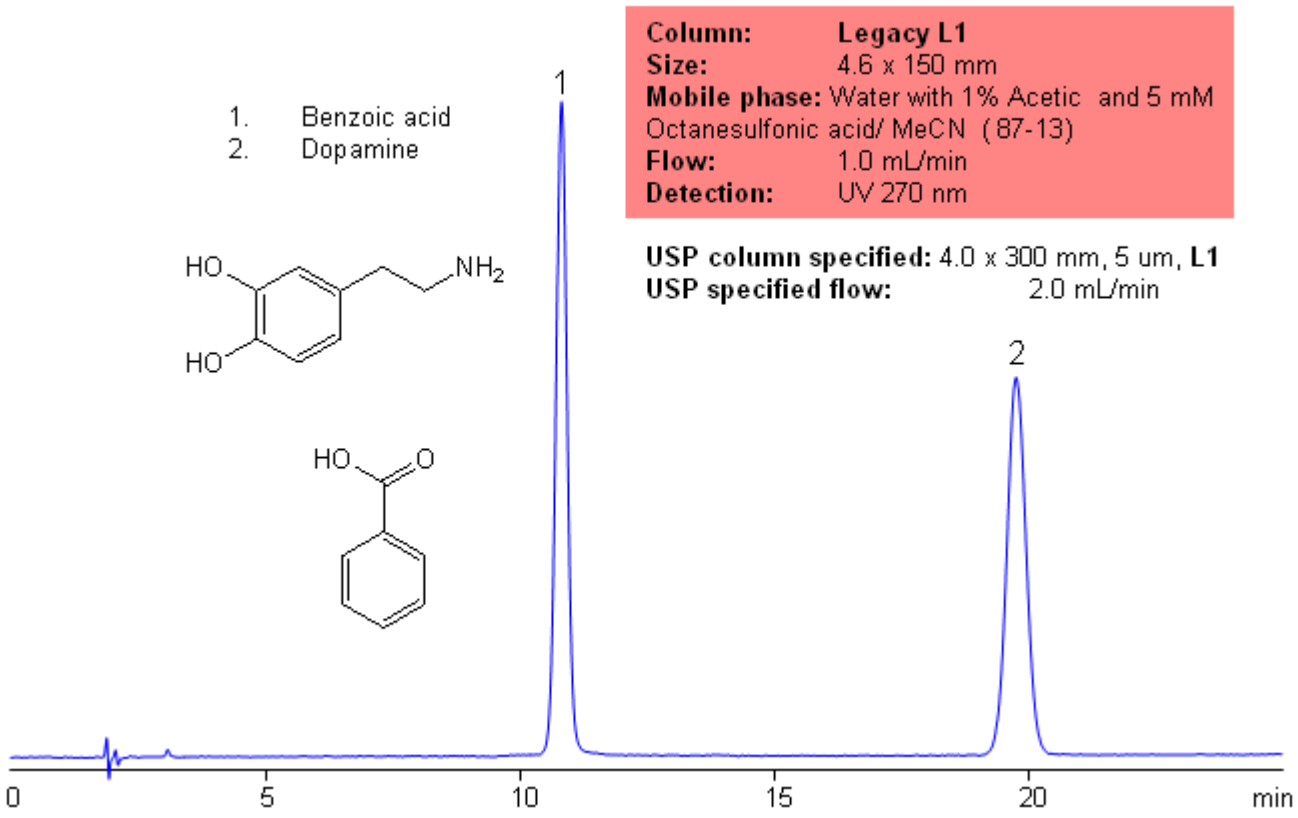
Application compounds: Albuterol

Mobile phase: Water with 1% acetic acid and 5mM hexane sulfonic acid and MeOH (60:40)

Detection technique: UV

Reference: USP35: NF30

USP Analysis of Dopamine Using a Legacy L1 column



Application Notes: Dopamine is a naturally occurring neurotransmitter found in the brain. Dopamine is a well studied compound because dopamine is an important neurotransmitter known to regulate many functions from pain response to behavior disorders. According to USP methods, dopamine hydrochloride contains not less than 98% and not more than 102% dopamine hydrochloride calculated on the dried basis. The USP HPLC method for the separation of hydrocortisone was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

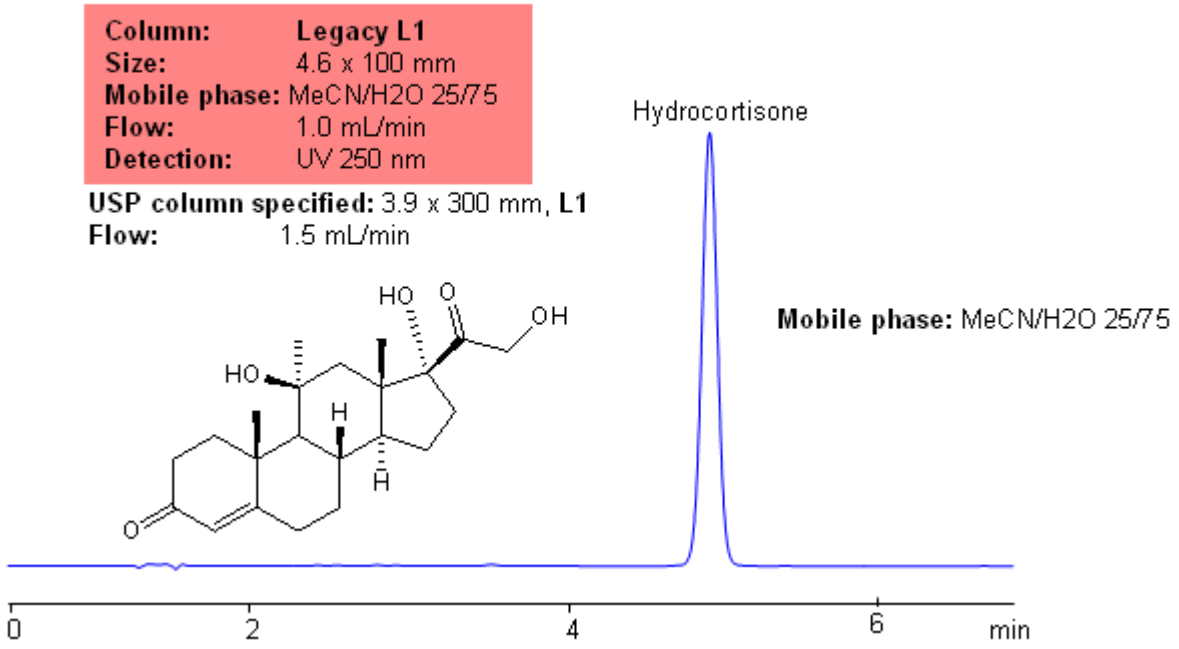
Application compounds: Dopamine hydrochloride

Mobile phase: Water with 1% acetic and 5mM octanesulfonic acid/MeCN

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Hydrocortisone on a Legacy L1 Column



Application Notes: Hydrocortisone is a naturally occurring hormone released during times of stress. Hydrocortisone has been synthesized and is used to treat diseases such as allergic reactions and skin conditions. According to the USP methods, hydrocortisone contains not less than 97 percent and not more than 102 percent of hydrocortisone calculated on the dried basis. The USP HPLC method for the separation of hydrocortisone was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A.

Application Columns: Legacy L1 C18 HPLC column

Application compounds: Hydrocortisone

Mobile phase: MeCN/H2O 25:75

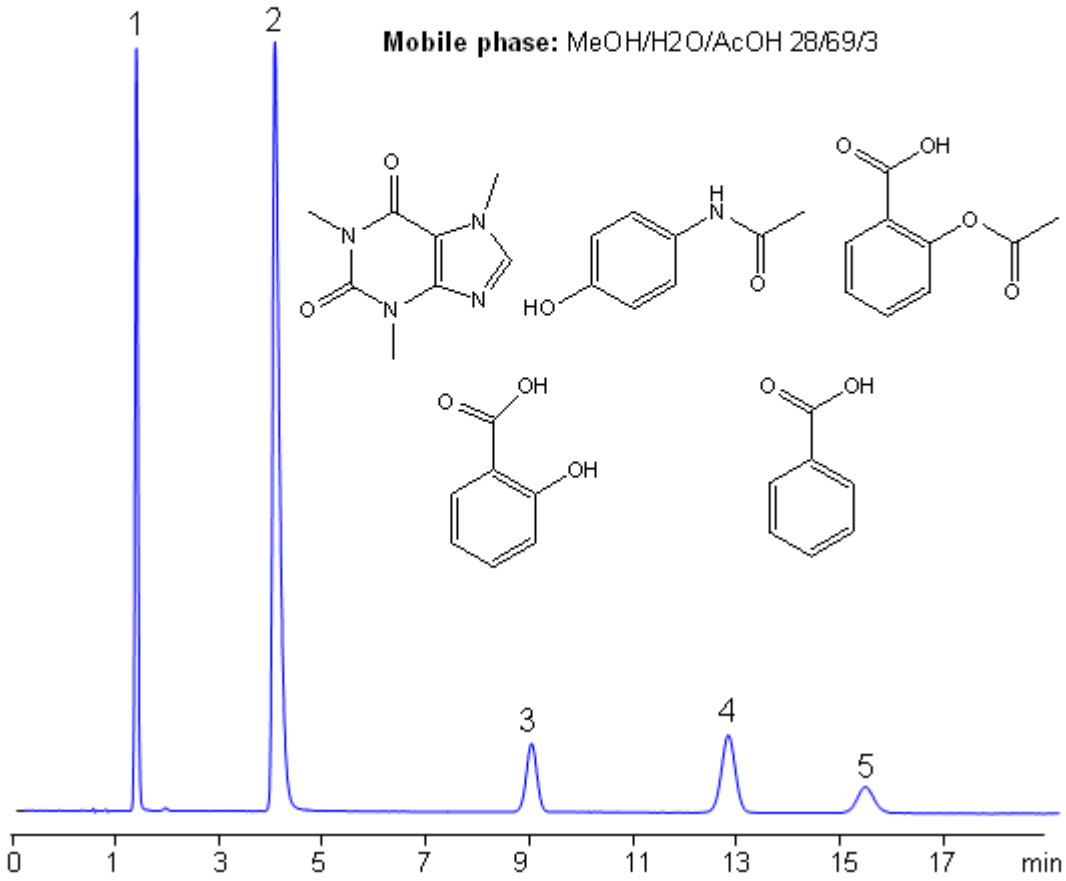
Detection technique: UV

Reference: USP30: NF35

USP Methods for the Analysis of an Analgesic Mixture Using the Legacy L1 Column

Column:	**Legacy L1**
Size:	4.6 x 100 mm
Mobile phase:	MeOH/H2O/AcOH 28/69/3
Flow:	1.0 mL/min
Detection:	UV 270 nm

1. Acetaminophen
2. Caffeine
3. Aspirin
4. Benzoic acid
5. Salicylic acid



Application Notes: Acetametaphin, aspirin, and caffeine tablets contain not less than 90 percent and not more than 110 percent of the labeled amounts if acetametaphin, asprin, and caffeine according the USP methods. USP HPLC method for separation of acetaminophen, aspirin and caffeine was developed on Legacy L1 column according to US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column contains C18 ligands. Support for the material is a spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

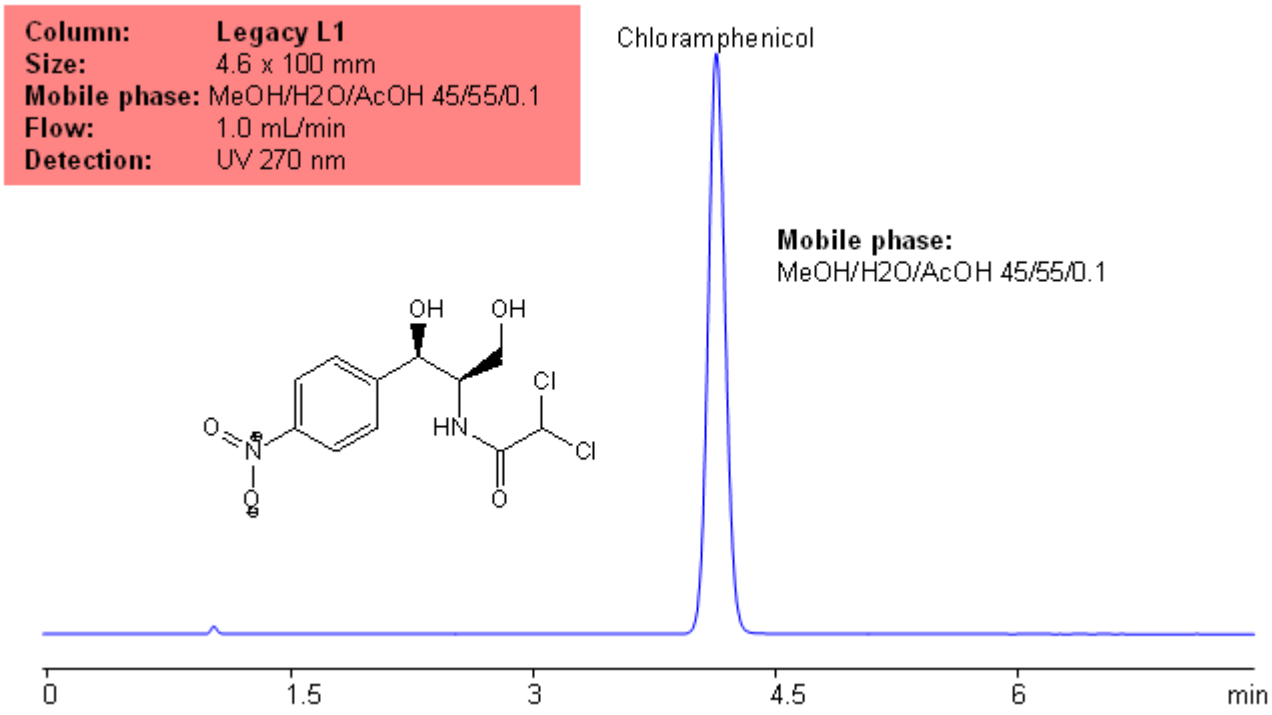
Application compounds: Acetaminophen, Aspirin, Caffeine, benzoic acid, and salicylic acid

Mobile phase: MeOH/H2O/AcOH 28/69/3

Detection technique: UV

Reference: USP30: NF35

USP Methods for Chloramphenicol using a Legacy L1 Column



Application Notes: Chloramphenicol is a common broad spectrum antibiotic developed in the 1940's. According to the USP methods, chloramphenicol should contain no less than 97.0% and no more than 103% of chloramphenicol calculated on a dried basis. The USP HPLC method for the analysis of chloramphenicol was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A.

Application Columns: Legacy L1 C18 HPLC column

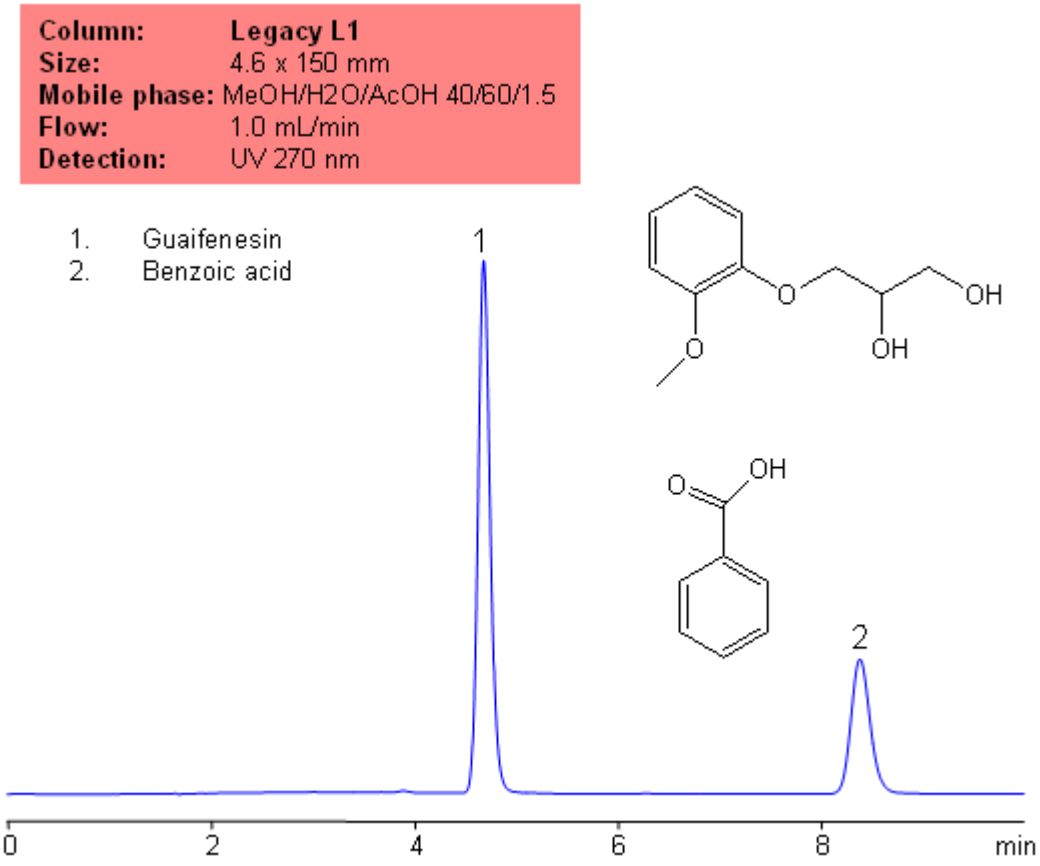
Application compounds: Chloramphenicol

Mobile phase: MeOH/H2O/AcOH 45/55/0.1

Detection technique: UV

Reference: USP 30: NF35

USP Methods for the Analysis of Guaifenesin Using a Legacy L1 Column



Application Notes: Guaifenesin is common, over the counter expectorant. Guaifenesin contain no less than 98 percent and not more than 102 percent of the labeled amount of guaifenesin calculated on a dried basis, according to the USP methods. the The USP HPLC method for the analysis of guaifenesin was developed on our Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A.

Application Columns: Legacy L1 C18 HPLC column

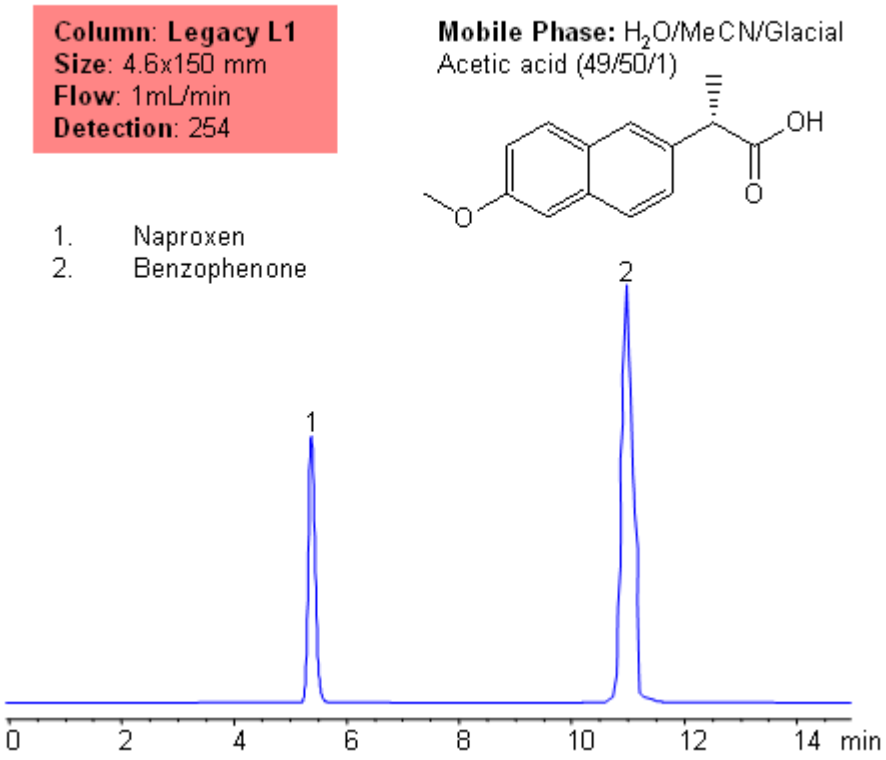
Application compounds: Guaifenesin, benzoic acid

Mobile phase: MeOH/H2O/AcOH 40:60:1.5

Detection technique: UV

Reference: USP 35- NF30

USP Methods for the Analysis of Naproxen Using Legacy L1 Column



Application Notes: Naproxen is a common NSAID used for pain relief and fever reducer. According to the USP methods, naproxen contains no less than 98% and no more than 101.5 percent naproxen calculated on a dried basis. The USP HPLC method for the separation of naproxen was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

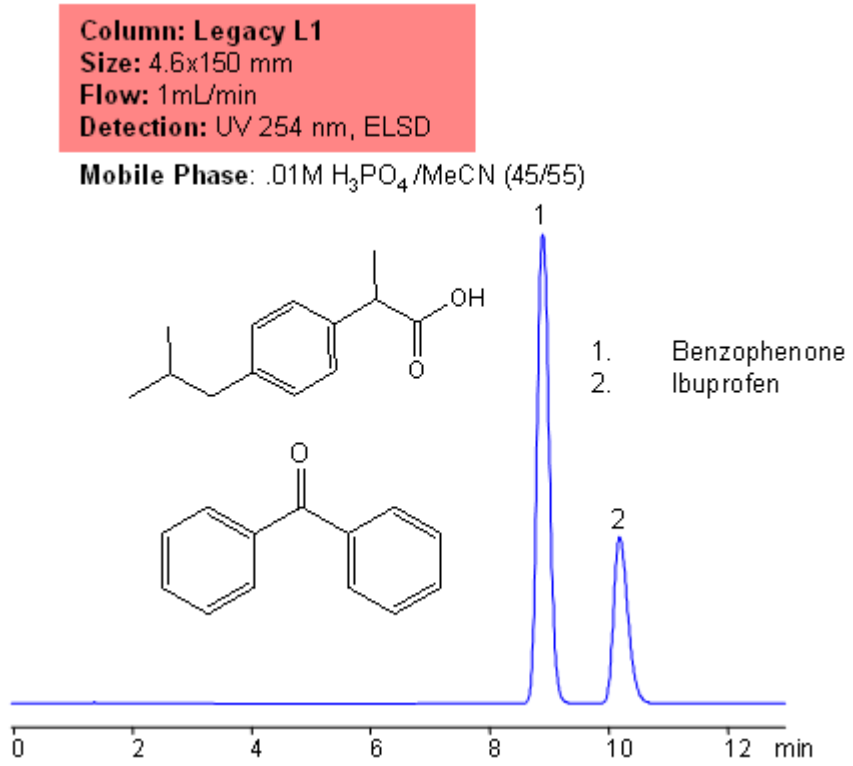
Application compounds: naproxen and bezophenone

Mobile phase: water/MeCN/Glacial Acetic acid (49/50/1)

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Ibuprofen Using Legacy L1 Column



Application Notes: Ibuprofen is the most commonly used analgesic. It is a vasoconstrictor and fever reducer. According to the USP methods, ibuprofen contains no less than 97% and no more than 103% ibuprofen based on a dried basis. The USP HPLC method for the separation of ibuprofen was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

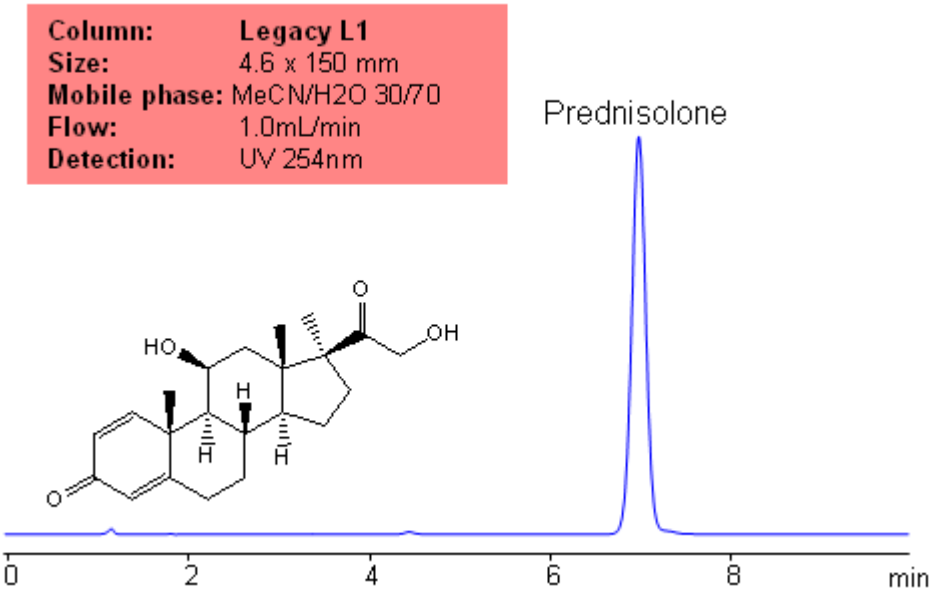
Application compounds: Ibuprofen and benzophenone

Mobile phase: .01M H3PO4/MeCN (55/45)

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Prednisolone with the Legacy L1 Column



Application Notes: Prednisolone is a metabolite of prednisone. Prednisone is a common drug used to treat inflammatory diseases. The USP HPLC method for the separation of pyridoxine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

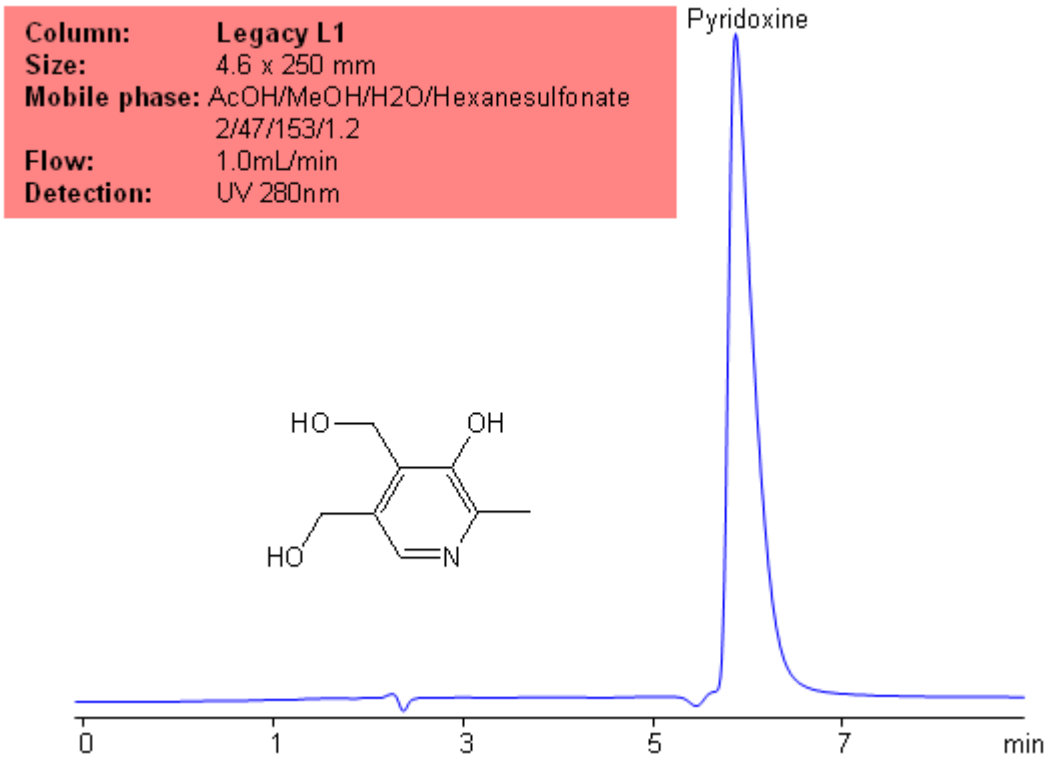
Application compounds: Prednisolone

Mobile phase: MeCN/H20 30/70

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Pyridoxine for the Legacy L1 Column



Application Notes: Pyridoxine is part of the vitamin B complex group. Pyridoxine is important in the body's daily function as it regulates many enzymatic reactions. The USP HPLC method for the separation of pyridoxine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

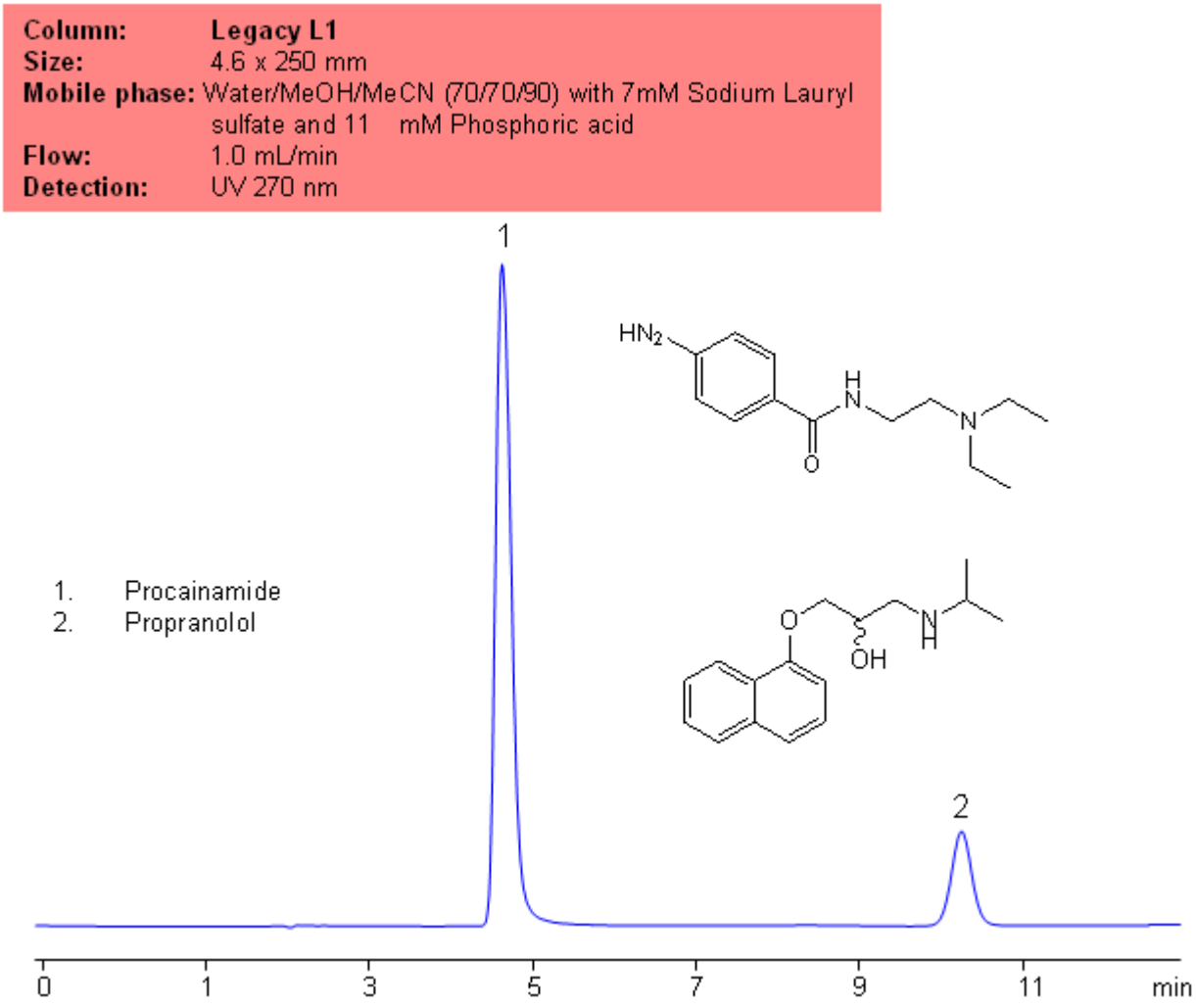
Application compounds: Pyridoxine

Mobile phase: AcOH/MeOH/H2O/Hexanesulfonate (2/47/153/1.2)

Detection technique: UV

Reference: USP35- NF30

USP Methods for the Separation of Propranolol and Procainamide using a Legacy L1 Column



Application Notes:

Propranolol is a common beta-blocker used for treating anxiety and hypertension, and procainamide is an antiarrhythmic drug. According to the USP methods, propranolol hydrochloride contain no less than 98% and no more than 101.5 percent of propranolol calculated on a dried basis. The USP HPLC method for the separation of phenylephrine and epinephrine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of USP.

Application Columns: Legacy L1 C18 HPLC column

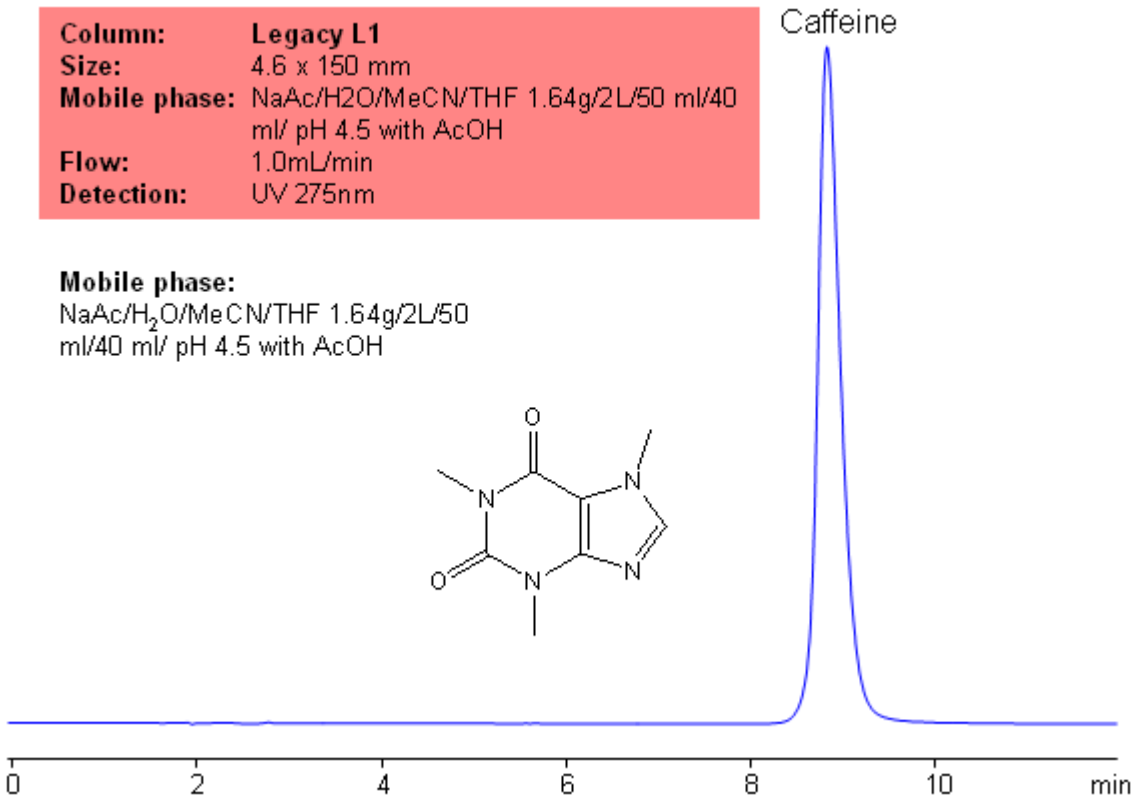
Application compounds: Propranolol and procainamide

Mobile phase: Water/MeOH/MeCN (70/70/90) with 7mM sodium lauryl sulfate and 11 mM phosphoric acid

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Caffeine using the Legacy L1 Column



Application Notes: Caffeine is the most common stimulant used. According to USP methods, caffeine should be anhydrous or contain no more than one molecule of water of hydration. Additionally, caffeine should not contain more than 101% and no less 98.5% caffeine calculate on a anhydrous basis. The USP HPLC method for the separation of caffeine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

Application compounds: Caffeine

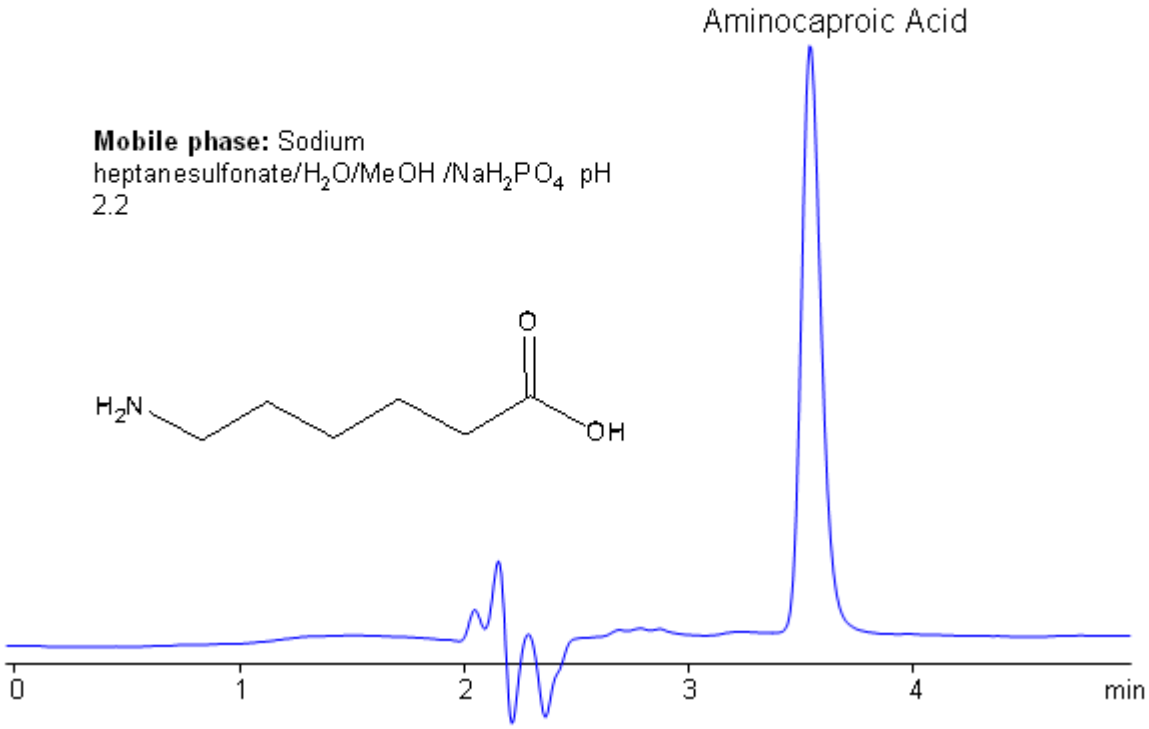
Mobile phase: NaAc/H2O/MeCN/THF 1.64g/2L/50 ml/40 ml/ pH 4.5 with AcOH

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Aminocaproic Acid using the Legacy L1 Column

Column:	**Legacy L1**
Size:	4.6 x 150 mm
Mobile phase:	Sodium heptanesulfonate/H2O/MeOH /NaH2PO4 pH 2.2
Flow:	0.7mL/min
Detection:	UV 210nm



Application Notes: Aminocaproic acid is a enzymatic inhibitor. According to USP methods, aminocaproic acid conatins not less than 98.5% and not more than 101.5% of aminocaproic acid calculated on a dried basis. The USP HPLC method for the separation of aminocaproic acid was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Application Columns: Legacy L1 C18 HPLC column

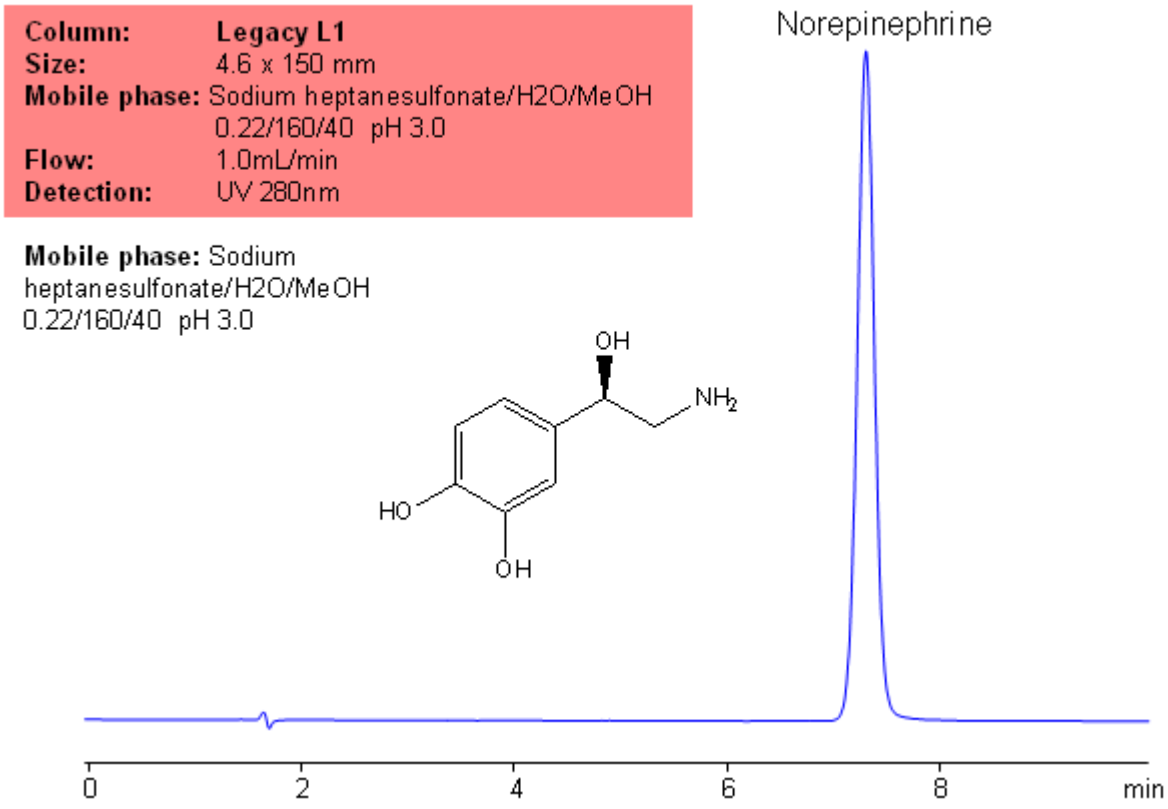
Application compounds: Aminocaproic acid

Mobile phase: Sodium heptanesulfonate/H2O/MeOH /NaH2PO4 pH 2.2

Detection technique: UV

Reference: USP35: NF30

USP Methods for the Analysis of Norepinephrine using the Legacy L1 Column



Application Notes: Norepinephrine is a naturally occurring hormone and neurotransmitter. The USP HPLC method for the separation of norepinephrine was developed on Legacy L1 column according to the US Pharmacopeia methodology. L1 classification is assigned to reversed-phase HPLC column containing C18 ligand. Support for the material is spherical silica gel with particles size 3-10 um and pore size of 100-120A. Resolution between critical pairs corresponds to rules and specifications of UPS.

Reference: USP35: NF30