Suven Research Publications in 2007

1. Biomed Chromatogr. 2007 Dec; 21(12):1240-4.

Quantification of tenatoprazole in rat plasma by HPLC: validation and its application to pharmacokinetic studies.

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Abstract

A simple, reliable HPLC method with UV detection (295 nm) in rat plasma was developed and validated for quantification of tenatoprazole, a novel proton pump inhibitor, which is in clinical trials. Following a single-step liquid-liquid extraction, the analyte and internal standard were separated using an isocratic mobile phase on a reverse phase C(18) column. The lower limit of quantitation was 20 ng/mL, with a relative standard deviation of less than 10%. A linear dynamic range of 20-6000 ng/mL was established. This HPLC method was validated with between-batch and within-batch precision of 2.9-6.3 and 1.4-5.8%, respectively. The between-batch and within-batch accuracy was 95.1-104.1 and 92.4-101.0%, respectively. This validated method is simple and repeatable enough to be used in pharmacokinetic studies.

PMID: 17590865 [PubMed - indexed for MEDLINE]

2. Biomed Chromatogr. 2007 Nov;21(11):1151-8.

Quantification of pramipexole in human plasma by liquid chromatography tandem mass spectrometry using tamsulosin as internal standard.

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Abstract

A high-performance liquid chromatography/electrospray ionization tandem mass spectrometry method was developed and validated for the quantification of pramipexole in human plasma. Following liquid-liquid extraction, the analytes were separated using an isocratic mobile phase on a reverse-phase column and analyzed by MS/MS in the multiple reaction monitoring mode using the respective [M + H](+) ions, m/z 212/152 for pramipexole and m/z 409/228 for the IS. The method exhibited a linear dynamic range of 200-8000 pg/mL for pramipexole in human plasma. The lower limit of quantification was 200 pg/mL with a relative standard deviation of less than 8%. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. A run time of 3.5 min for each sample made it possible to analyze more than 200 human plasma samples per day. The validated method has been successfully used to analyze human plasma samples for application in pharmacokinetic, bioavailability or bioequivalence studies.

PMID: 17583880 [PubMed - indexed for MEDLINE]

3. Beilstein J Org Chem. 2007 Jun 8;3:20.

Novel base catalysed rearrangement of sultone oximes to 1,2-benzisoxazole-3-methane sulfonate derivatives.

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Abstract

A new process for the preparation of 1,2-benzisoxazole-3-methanesulfonates and 4-oximino-2,3-dihydrobenzoxathiin-2,2-dioxides (sultone oximes) is described. These compounds are important intermediates for the preparation of zonisamide, an anti-convulsant drug.

PMCID: PMC1919382

PMID: 17555607 [PubMed]

4. J Pharm Biomed Anal. 2007 Jun 28;44(2):379-87. Epub 2007 Feb 13.

Chromatography-mass spectrometry methods for the quantitation of statins in biological samples.

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Abstract

The 3-hydroxy-3-methyl glutaryl coenzyme A (HMG-CoA) reductase inhibitors, more commonly known as 'statins', are a novel class of drugs widely used for the treatment of hypercholesterolaemia in patients with established cardiovascular disease as well as those at high risk of developing atherosclerosis. Published chromatographic-mass spectrometric methods for the quantification of presently available seven statins, atorvastatin, simvastatin, lovastatin, pravastatin, fluvastatin, rosuvastatin and pitavastatin are reviewed. High performance liquid chromatography (HPLC) in combination with tandem mass spectrometry (MS/MS) is the analytical technique of choice for the quantification of statins in biological samples. This review envisages that most of the methods used for quantification of statins are in plasma and they are suitable for therapeutic drug monitoring of these drugs.

PMID: 17433599 [PubMed - indexed for MEDLINE]

5. J Chromatogr Sci. 2007 Feb;45(2):97-103.

Quantitative determination of galantamine in human plasma by sensitive liquid chromatography-tandem mass spectrometry using loratadine as an internal standard.

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Abstract

A simple, rapid, sensitive, and selective liquid chromatography-tandem mass spectrometry method is developed and validated for the quantitation of galantamine, an acetylcholinesterase inhibitor in human plasma, using a commercially available compound, loratadine, as the internal standard. Following liquid-liquid extraction, the analytes are separated using an isocratic mobile phase on a reverse-phase C18 column and analyzed by mass spectrometry in the multiple reaction monitoring mode using the respective (M+H)+ ions, m/z 288 to 213 for galantamine and m/z 383 and 337 for the internal standard. The assay exhibit a linear dynamic range of 0.5-100 ng/mL for galantamine in human plasma. The lower limit of quantitation is 0.5 ng/mL, with a relative standard deviation of less than 8%. Acceptable precision and accuracy are obtained for concentrations over the standard curve range. A run time of 2.5 min for each sample makes it possible to analyze more than 400 human plasma samples per day. The validated method is successfully used to analyze human plasma samples for application in pharmacokinetic, bioavailability, or bioequivalence studies.

PMID: 17425139 [PubMed - indexed for MEDLINE]

6. Biomed Chromatogr. 2007 Mar;21(3):241-8.

Quantification of pseudoephedrine in human plasma by LC-MS/MS using mosapride as internal standard.

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A simple, sensitive and rapid high-performance liquid chromatography/positive ion electrospray tandem mass spectrometry (LC-MS/MS) method was developed and validated for the quantification of pseudoephedrine in human plasma using mosapride as internal standard. Following solid-phase extraction, the analytes were separated using an isocratic mobile phase on a reverse-phase column and analyzed by MS/MS in the multiple-reaction monitoring mode using the respective [M + H](+) ions, m/z 166/148 for pseuoephedrine and m/z 422/198 for the IS. The method exhibited a linear dynamic range of 2-1000 ng/mL pseudoephedrine in human plasma. The lower limit of quantification was 2 ng/mL with a relative standard deviation of less than 9% for pseudoephedrine. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. The total chromatographic run time of 2 min for each sample made it possible to analyze more than 400 human plasma samples per day. The validated method has been successfully used to analyze human plasma samples for application in pharmacokinetic, bioavailability or bioequivalence studies.

PMID: 17230461 [PubMed - indexed for MEDLINE]

7. Biomed Chromatogr. 2007 Feb;21(2):209-16.

Quantification of fexofenadine in human plasma by liquid chromatography coupled to electrospray tandem mass spectrometry using mosapride as internal standard.

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Abstract

A rapid high-performance liquid chromatography/positive ion electrospray tandem mass spectrometry method was developed and validated for the quantification of fexofenadine in human plasma using mosapride as internal standard. Following solid-phase extraction, the analytes were separated using an isocratic mobile phase on a reverse-phase column and analyzed by MS/MS in the multiple reaction monitoring mode using the respective [M+H]+ ions, m/z 502/466 for fexofenadine and m/z 422/198 for the IS. The method exhibited a linear dynamic range of 1-500 ng/mL for fexofenadine in human plasma. The lower limit of quantification was 1 ng/mL with a relative standard deviation of less than 5% for fexofenadine. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. The total chromatographic run time of 2 min for each sample made it possible to analyze more than 400 human plasma samples per day. The validated method has been successfully used to analyze human plasma samples for application in pharmacokinetic, bioavailability or bioequivalence studies.

PMID: 17221908 [PubMed - indexed for MEDLINE]