Suven Research Publications in 2008

1. J Chromatogr Sci. 2008 Oct;46(9):764-6.

Enantiomeric separation of Linezolid by chiral reversed-phase liquid chromatography.

Nirogi R, Kota S, Katta RR, Vennila S, Kandikere V, Mudigonda K, Vurimindi HB.

Suven Life Sciences Limited, Serene Chambers, Road # 5, Avenue 7, Banjara Hills, Hyderabad - 500034, India. ramakrishna_nirogi@yahoo.co.in

Abstract
A chiral liquid chromatographic method is developed for the enantiomeric resolution of Linezolid, (S)(-)-N-[[-3-(3-fluoro-4-(4-morpholinyl)phenyl]-2-oxo-5-oxazolidinyl] methyl] acetamide, an antibiotic in bulk drugs. The enantiomers of Linezolid are resolved on a Chiralcel OJ-RH column using a mobile phase system containing 150mM di-sodium hydrogen phosphate buffer (pH 4.5)-acetonitrile (86:14, v/v). The resolution between the enantiomers is found to be two. The developed method is extensively validated and proved to be robust. The limit of detection and limit of quantification of (R)-enantiomers are found to be 94 and 375 ng/mL, respectively, for 10 microL injection volume. The percentage recovery of (R)-enantiomer is ranged from 98.9 to 102.9 in bulk drug samples of Linezolid. Linezolid sample solution and mobile phase are found to be stable for at least 48 h. The proposed method is found to be suitable and accurate for the quantitative determination of (R)-enantiomer in bulk drugs.

PMID: 19007475 [PubMed - indexed for MEDLINE]

2. Biomed Chromatogr. 2008 Oct;22(10):1043-55.

Sensitive liquid chromatography tandem mass spectrometry method for the quantification of Quetiapine in plasma.

Nirogi R, Bhyrapuneni G, Kandikere V, Mudigonda K, Ajjala D, Mukkanti K.

Pharmacokinetics and Drug Metabolism, Drug Discovery, Suven Life Sciences Ltd, Serene Chambers, Road 5, Avenue 7, Banjara Hills, Hyderabad 500034, India.
ramakrishna_nirogi@yahoo.co.in

Abstract

A sensitive high-performance liquid chromatography-tandem mass spectrometry method was developed and validated for the quantification of quetiapine in rat plasma. Following liquid-liquid extraction, the analyte was separated using a gradient 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 384 to m/z 221 for quetiapine and m/z 327 to m/z 270 for the internal standard. The assay exhibited a linear dynamic range of 0.25-500 ng/mL for quetiapine in rat plasma. The lower limit of quantification was 0.25 ng/mL with a relative standard deviation of less than 7%. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. The validated method was successfully used to analyze rat plasma samples for application in pre-clinical pharmacokinetic studies. This method in rodent plasma could be adapted for quetiapine assay in human plasma.

PMID: 18781706 [PubMed - indexed for MEDLINE]

3. Biomed Chromatogr. 2008 Dec;22(12):1424-33.

Liquid chromatography tandem mass spectrometry method for the quantification of amisulpride with LLOQ of 100 pg/mL using 100 microL of plasma.

Nirogi R, Bhyrapuneni G, Kandikere V, Mudigonda K, Ajjala D, Suraneni R, Mukkanti K.

Pharmacokinetics and Drug Metabolism, Drug Discovery, Suven Life Sciences Ltd, Serene Chambers, Road 5, Avenue 7, Banjara Hills, Hyderabad 500034, India.
ramakrishna_nirogi@yahoo.co.in

Abstract

A sensitive and selective high-performance liquid chromatography-positive ion electrospray tandem mass spectrometry method was developed and validated for the quantification of amisulpride in 100 microL of 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 370-242 for amisulpride and m/z 341-112 for the internal standard. The assay exhibited a linear dynamic range with a lower range of 0.1-100 ng/mL and a higher range of 1-500 ng/mL of amisulpride in human plasma. The lower limit of quantification was 0.1 ng/mL with a relative standard deviation of less than 10%. Acceptable precision and accuracy were obtained for both linearity ranges. A run time of 2.0 min for each sample made it possible to analyze more than 275 human plasma samples per day. The validated method has been successfully used to analyze plasma samples for application in pharmacokinetic studies.

PMID: 18655221 [PubMed - indexed for MEDLINE]

4. J Enzyme Inhib Med Chem. 2008 Jun;23(3):302-12.

Design, synthesis and preliminary screening of novel 3-(2-N,N-dimethylaminoethylthio) indole derivatives as potential 5-HT(6) receptor ligands.

Kambhampati R, Konda J, Reballi V, Shinde AK, Dubey PK, Nirogi RV.

Medicinal Chemistry, Discovery Research, Suven Life Sciences Ltd, Serene Chambers, Hyderabad, India.

Abstract

The synthesis and potential 5-hydroxytryptamine(6) receptor (5-HT6R) antagonist activity of a novel series of N-arylsulfonyl-3-(2-N,N-dimethylaminoethylthio) indoles has been reported. The molecular modeling, synthesis and in-vitro radioligand binding data of this series are discussed. The present article describes 37 derivatives of the title series. It was observed that the increased side-chain length with the insertion of a sulfur atom did not lead to the loss of binding affinity of these compounds, although the affinities were reduced. The compounds exhibited moderate affinity and selectivity to human 5-HT6 receptors.

PMID: 18569332 [PubMed - indexed for MEDLINE]

5. Biomed Chromatogr. 2008 Sep;22(9):992-1000.

Liquid chromatography tandem mass spectrometry method for the quantification of clonidine with LLOQ of 10 pg/mL in human plasma.

Nirogi R, Kandikere V, Mudigonda K, Komarneni P.

Biopharmaceutical Research, Suven Life Sciences Ltd, Serene Chambers, Road 5, Avenue 7, Banjara Hills, Hyderabad 500034, India. ramakrishna_nirogi@yahoo.co.in

Abstract

A sensitive high-performance liquid chromatography-positive ion electrospray tandem mass spectrometry method was developed and validated for the quantification of clonidine 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 230 to 44 for clonidine and m/z 254 to 44 for the internal standard. The assay exhibited a linear dynamic range of 10-2000 pg/mL for clonidine in human plasma. The lower limit of quantification was 10 pg/mL with a relative standard deviation of less than 6.8%. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. A run time of 2.5 min for each sample made it possible to analyze more than 250 human plasma samples per day. The validated method was successfully used to analyze human plasma samples for application in pharmacokinetic studies.

PMID: 18506682 [PubMed - indexed for MEDLINE]

6. Biomed Chromatogr. 2008 May;22(5):469-77.

Liquid chromatography tandem mass spectrometry method for the quantification of rimonabant, a CB1 receptor antagonist, in human plasma.

Nirogi R, Kandikere V, Mudigonda K, Ajjala D.

Biopharmaceutical Research, Suven Life Sciences Ltd, Serene Chambers, Road 5, Avenue 7, Banjara Hills, Hyderabad 500034, India. ramakrishna_nirogi@yahoo.co.in

Abstract

A sensitive high-performance liquid chromatography-tandem mass spectrometry method was developed and validated for the quantification of rimonabant 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 463-363 for rimonabant and m/z 408-235 for the internal standard. The assay exhibited a linear dynamic range of 0.1-100 ng/mL for rimonabant in human plasma. The lower limit of quantification was 0.1 ng/mL with a relative standard deviation of less than 6%. With dilution integrity up to 10-fold, the upper limit of quantification was extendable up to 1000 ng/mL. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. A run time of 2.0 min for each sample made it possible to analyze more than 250 human plasma samples per day. The validated method was successfully used to analyze human plasma samples for application in pharmacokinetic studies. Copyright (c) 2007 John Wiley & Sons, Ltd.

PMID: 18059061 [PubMed - indexed for MEDLINE]

7. Biomed Chromatogr. 2008 Feb;22(2):214-22

Sensitive liquid chromatography tandem mass spectrometry method for the quantification of sitagliptin, a DPP-4 inhibitor, in human plasma using liquid-liquid extraction.

Nirogi R, Kandikere V, Mudigonda K, Komarneni P, Aleti R, Boggavarapu R.

Biopharmaceutical Research, Suven Life Sciences Ltd, Serene Chambers, Road-5, Avenue-7, Banjara Hills, Hyderabad 500034, India. Ramakrishna_nirogi@yahoo.co.in

Abstract

A sensitive high-performance liquid chromatography-positive ion electrospray tandem mass spectrometry method was developed and validated for the quantification of sitagliptin, a DPP-4 inhibitor, 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 408-235 for sitagliptin and m/z 310-148 for the internal standard. The assay exhibited a linear dynamic range of 0.1-250 ng/mL for sitagliptin in human plasma. The lower limit of quantification was 0.1 ng/mL with a relative standard deviation of less than 6%. Acceptable precision and accuracy were obtained for concentrations over the standard curve range. A run time of 2.0 min for each sample made it possible to analyze more than 300 human plasma samples per day. The validated method has been successfully used to analyze human plasma samples for application in pharmacokinetic studies**.**

PMID: 17939170 [PubMed - indexed for MEDLINE]