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A validated HPLC method for estimation of Loratadine from pharmaceutical preparations

Chougule G. K.*[1] and Dr. Zubaidha P. K.[2]

[1]Lecturer, DSTSM College of Pharmacy, Solapur (MS), India
[2]SRTM University, Nanded (MS), India

A rapid and simple HPLC procedure was developed for rapid quality control analysis of pharmaceutical preparations containing the antihistaminic drug loratadine. The separation was performed on a column packed with ODS C-18 (Kromasil 4.6mm x 25cm, 5µm) adopting UV detection at 248 nm using a flow rate of 1 ml/min with isocratic elution at room temperature. The optimized mobile phase consisted of Methanol & water. The developed method was validated in terms of specificity, linearity, interday and intraday precision, stability of solutions and accuracy. Percent recovery was calculated and was found to be in range 99-101%. Linearity was assessed in the range of 2-24 µg/ml in plasma with a correlation coefficient of greater than 0.999. The intra-and inter-day coefficient of variation of the assay method were calculated. The values were between 98-102%. The method requires a minimum of sample handling and is rapid (10 min), and reproducible (R.S.D. < 2.0%).

A new synthetic approach and in vitro antimicrobial evaluation of pyrazole and 2-pyridone motifs

G. M. Kotadiya, Ms. K. M. Rajpara and N. C. Desai*

Department of Chemisty, Bhavnagar University, India

The emergence of microbial strains resistant to present antibiotics highlights the need for new antimicrobial compounds. In continuation to this, the present report deals with the synthesis and antimicrobial activity of a novel series of 6-amino-2-oxo-4-(aryl)-1-((1-phenyl-3-p-tolyl-1H-pyrazol-4-yl)methyleneamino)-1,2-dihydropyridine-3,5-dicarbonitriles. The structures of these compounds were characterized by spectral (IR, ^{1}H NMR, ^{13}C NMR, MS) analysis. All bio-active molecules are tested for their in vitro antimicrobial activity by bioassay namely serial broth dilution. Compounds were screened for in vitro antibacterial activity against the representative panel of Gram-positive (Staphylococcus aureus, Streptococcus pyogenes) and Gram-negative (Escherichia coli, Pseudomonas aeruginosa) bacteria. All newly synthesized compounds were also tested for their inhibitory action against three strains of fungi (Candida albicans, Aspergillus niger, Aspergillus clavatus) and have exhibited moderate to excellent growth inhibition of bacteria and fungi. On basis of statistical analysis, it was observed that these compounds showed significant co-relation.

Synthesis of promising antimicrobial agents - A new class of 2-((1-(4-(4-(arylidene)-5-oxo-2-phenyl-4, 5-dihydro-1H-imidazol-1-yl) phenyl) ethylidene) hydrazono) thiazolidin-4-ones

H. V. Vaghani, V. V. Joshi and N. C. Desai*

Department of Chemisty, Bhavnagar University, India

It is our ongoing efforts to search new bio-active molecules and as a part of it, several chemical processes like condensation, cycloaddition were carried out to furnish 2-((1-(4-(4-(arylidene)-5-oxo-2-phenyl-4,5-dihydro-1H-imidazol-1-yl)phenyl) ethylidene)hydrazono)thiazolidin-4-ones. All compounds were characterized by IR, ^{1}H NMR, ^{13}C NMR and mass spectra. Newly synthesized compounds were screened for their antibacterial and antifungal activities on Escherichia coli, Staphylococcus aureus, Pseudomonas aeruginosa, Staphylococcus pyogenes, Candida albicans, Aspergillus niger and Aspergillus clavatus by bioassay namely serial broth dilution. On the basis of statistical analysis, it was observed that these compounds showed significant co-relation. The synthesized compounds showed potent antimicrobial activity against test microorganisms.