



ORIGINAL ARTICLE

Spectrophotometric determination and thermodynamic studies of the charge transfer complexes of azelastine-HCl

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Abstract Three charge transfer complexes of azelastine as n -donor with π acceptors, dichloro-dicyanobenzoquinone (DDQ), chloranilic acid (CA) and tetracyanoquinodimethane (TCNQ) were prepared in acetonitrile. They yield a radical anions measured at 456, 520 and 841 nm within concentration ranges of 8.0-72, 40-320 and 1.6-14.4 $\mu\text{g mL}^{-1}$ with good correlation coefficients ($r = 0.9996-0.9998$). The molar absorptivities and association constants for the colored products were evaluated using the Benesi-Hildebrand equation. The free energy change (ΔG°) and the enthalpy of formation (ΔH°) as well as the entropy (ΔS°) were determined for the reaction product with TCNQ. The methods were successfully applied to the analysis of azelastine in its pharmaceutical preparations, where no interferences could be observed from the additives commonly present in the eye drops or nasal spray as proved by good mean recoveries of $98.89 \pm 1.06-99.54 \pm 1.84\%$. The results were compared, favorably with the manufacturer method and validated according to ICH guidelines.

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1. Introduction

Azelastine HCl is 4-(4-chlorobenzyl)-2-[(4RS)-1-methylhexahydro-1H-azepin-4-yl]phthalazin-1(2H)-one hydrochloride¹ (Fig. 1). It is an intranasal antihistamine indicated for allergic rhinitis, conjunctivitis and vasomotor.²⁻⁴ Few analytical methods were reported for its determination including volumetry,⁵ UV spectrophotometry,⁶ colorimetry,⁷ TLC,⁸ HPLC^{9,10} and capillary electrophoresis.¹¹ The aim of the present study is to develop a simple and rapid spectrophotometric method for analysis of azelastine-HCl in its pharmaceutical formulations. The association constant and standard free energy change (ΔG°) are studied using Benesi-Hildebrand plot. The kinetic

Curr Med Res Opin. Oct;23(10) Azelastine hydrochloride: a review of pharmacology, pharmacokinetics, clinical efficacy and tolerability. Bernstein. Allergy Asthma Proc. Mar-Apr;24(2) Azelastine nasal spray: a review of pharmacology and clinical efficacy in allergic and nonallergic rhinitis. (R)-azelastine, N-desmethyl. Route of elimination. Approximately 75% of an oral dose of radiolabeled azelastine hydrochloride. Azelastine is a potent, second-generation, selective, histamine antagonist used as a first line AU: S2 (Pharmacy only); UK: POM (Prescription only); US: ?- only Pharmacokinetic data. Bioavailability, 40% (intranasal). Elimination half-life .DCP-2) has reviewed the Clinical Pharmacology information formulation of % w/v azelastine hydrochloride nasal spray, Astelin was. Clinical Pharmacology II. OND Division. Division of Pulmonary, Allergy, and Rheumatology. Products. Sponsor/Authorized Applicant Meda. Pharmacology. Metabolism: liver; CYP substrate (enzymes not defined); Info : 40% systemic absorption; active metabolite. Excretion: feces 75% (<10%. Request PDF on ResearchGate Azelastine hydrochloride: A review of pharmacology, pharmacokinetics, clinical efficacy and tolerability Azelastine. Request PDF on ResearchGate Azelastine nasal spray: A review of pharmacology and clinical efficacy in allergic and nonallergic rhinitis Azelastine . Information about the drug azelastine (Astelin), prescribed for the treatment of allergic rhinitis symptoms. Medical and Pharmacy Editor: Jay W. Marks, MD. Azelastine hydrochloride is a pharmacologically distinct H1-receptor antagonist with a broad spectrum of antiallergic and anti-inflammatory activity. Azelastine. Azelastine Nasal Spray: A Review of Pharmacology and Clinical. Efficacy in Allergic and. Nonallergic Rhinitis. Phillip L. Lieberman, M.D.,* and Russell A. Azelastine has demonstrated a wide range of pharmacologic effects on chemical mediators of inflammation including leukotrienes, kinins, and platelet activating. View pharmacology details for the Fluticasone + Azelastine generic medicine. Azelastine HCl (Astelin) is an intranasal antihistamine indicated for use in patients with seasonal allergic rhinitis (SAR) and non-allergic vasomotor rhinitis. approved for the treatment of AR. Azelastine HCl: Chemistry, pharmacokinetics, and pharmacology. Chemistry. Azelastine HCl is a bitter tasting, white pow-. Biochemical Pharmacology The effects of two new phthalazinone derivatives, azelastine (AZ) and flezelastine (FZ), on the reversal of. Azelastine is currently the only topical, intranasal antihistamine FDA . Often, a single pharmacologic agent does not effectively reduce symptoms of rhinitis. Medscape - Seasonal allergic rhinitis, perennial allergic rhinitis, vasomotor rhinitis-specific dosing for Astelin Nasal Spray, Astepro (azelastine), frequency- based. Learn about Astelin (Azelastine Hydrochloride) may treat, uses, dosage, side in pharmacologic activity noted between the enantiomers in in vitro studies. ASTELIN (Azelastine) drug information & product resources from MPR including dosage information, educational materials, & patient Pharmacological Class. Olopatadine hydrochloride and Azelastine hydrochloride are dual-acting selective H1 receptor antagonist with mast-cell stabilizing property. This study. Azelastine hydrochloride is a

novel phthalazinone derivative that displays a variety of pharmacologic properties of relevance to the treatment of allergic disease).

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