(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
31 October 2019 (31.10.2019)

WIPO | PCT

(10) International Publication Number
WO 2019/209220 A2

(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/TR2018/050858

(22) International Filing Date:
21 December 2018 (21.12.2018)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2017/21437 25 December 2017 (25.12.2017) TR
2018/19274 13 December 2018 (13.12.2018) TR

(71) Applicant: **SANOVEL ILAC SANAYI VE TICARET ANONIM SIRKETI** [TR/TR]; Istinye Mah. Balabandere Cad. No:14, 34460 Sariyer/Istanbul (TR).

(72) Inventors: **PEHLIVAN AKALIN, Nur**; Sanovel Ilac Sanayi Ve Ticaret Anonim Sirketi, Istinye Mah. Balabandere Cad. No:14, Istinye, 34460 Istanbul (TR). **AKKAYA, Kerim**; Sanovel Ilac Sanayi Ve Ticaret Anonim Sirketi, Istinye Mah. Balabandere Cad. No:14, Istinye, 34460 Istanbul (TR). **USLU, Ezgi**; Sanovel Ilac Sanayi Ve Ticaret Anonim Sirketi, Istinye Mah. Balabandere Cad. No:14, Istinye, 34460 Istanbul (TR).

(74) Agent: **SEVINC, Erkan**; Istanbul Patent A.S., Plaza-33 Buyukdere Cad. 33/16, 34381 Sisli/Istanbul (TR).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

(54) Title: EXTENDED RELEASE COMPOSITIONS OF FESOTERODINE

(57) Abstract: The present invention relates to extended release compositions comprising fesoterodine fumarate and at least one release retarding agent. The present invention also relates to a simple, rapid, cost effective, time-saving and industrially convenient method of preparing the extended release tablet compositions of fesoteradine fumarate.

WO 2019/209220 A2

EXTENDED RELEASE COMPOSITIONS OF FESOTERODINE

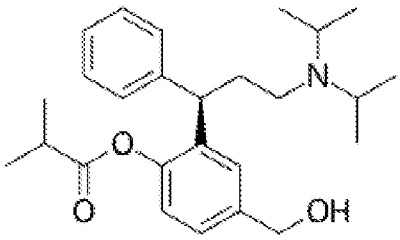
Field of the Invention

The present invention relates to extended release compositions comprising fesoterodine fumarate and at least one release retarding agent. The present invention also relates to a simple, rapid, cost effective, time-saving and industrially convenient method of preparing the extended release compositions of fesoteradine fumarate.

Background of the Invention

Fesoterodine fumarate is the fumarate salt form of fesoterodine, a competitive muscarinic receptor antagonist with muscle relaxant and urinary antispasmodic properties. Fesoterodine is rapidly hydrolyzed in vivo into its active metabolite 5-hydroxy methyl tolterodine, which binds and inhibits muscarinic receptors on the bladder detrusor muscle, thereby preventing bladder contractions or spasms caused by acetylcholine. This results in the relaxation of bladder smooth muscle and greater bladder capacity, in addition to a reduction in involuntary muscle contractions and involuntary loss of urine. The active metabolite does not interact with alpha-adrenergic, serotonergic, histaminergic and excitatory amino acid receptors and is eliminated via renal excretion.

The chemical name of fesoterodine fumarate is (E)-but-2-enedioic acid;[2-[(1R)-3-[di(propan-2-yl)amino]-1-phenylpropyl]-4-(hydroxymethyl)phenyl] 2-methylpropanoate. Its empirical formula is $C_{30}H_{41}NO_7$ and has the following structural formula:



Formula I

The drug fesoterodine fumarate is the active ingredient in a product being sold as TOVIAZ® tablets to treat urinary incontinence and frequency problems. Inactive

ingredients are glyceryl behenate, hypromellose, lactose monohydrate, soya lecithin, microcrystalline cellulose, polyethylene glycol, polyvinyl alcohol, talc, titanium dioxide, and xylitol.

Fesoterodine fumarate is known in the art for its potency in treating urinary incontinence. However, fesoterodine may exhibit substantial degradation under stress conditions. It is believed that hydrolyzation and oxidation are among the major mechanisms resulting in degradation.

Synthesis pathways for fesoterodine is described in EP 1 077 912 B1. Salts of fesoterodine is described in EP 1 230 209 B1. U.S. Patent No. 7,807,715 discloses fesoterodine tablet formulations containing a stabilizer against hydrolysis, wherein the stabilizer is preferably a sugar alcohol, such as sorbitol and xylitol. Furthermore, the drug needs to be involved in artificial polymer, so that an extended release could be achieved in a matrix. However, it was found that the amount of decomposition products can only be controlled if the proposed formulations were prepared by classical wet granulation. A direct compression or dry granulation also resulted in an identical composition to higher amounts of undesirable decomposition products (compared to the wet granulation).

There is thus still a need for a physically and chemically stable composition comprising fesoterodine that are stable against fesoterodine degradation over an extended period of time. In the present invention, stabilizers with binding properties was used, so while the stable formulation is provided without using extra load of excipients, also the formulation provide desired dissolution profile and excellent pharmacotechnical properties such as flowability, compressibility and homogeneity. Also, the formulation has been developed by using standard techniques which is simple and cost-effective method.

Detailed Description of the Invention

The main object of the present invention is to provide an extended release composition of fesoterodin fumarate which improves gastrointestinal (GI) intolerance and allows once-daily dosing.

Another object of the present invention is to provide an extended release composition of fesoterodin fumarate which has the potential to improve patient adherence with a simple dosing regimen and increased tolerability.

Another object of the present invention is to provide pharmaceutical compositions of fesoteradin fumarate which are more stable against degradation over storage period and also provide desired extended release of the drug.

Another object of the present invention is to provide an extended release composition of fesoterodin fumarate which is characterized by desired dissolution profile and excellent pharmacotechnical properties, such as flowability, compressibility and homogeneity.

The term “extended release” may be defined as reaching desired plasma levels of an active agent of interest throughout a determined period of time and providing the drug release at a uniform and constant rate. Fesoterodine fumarate is highly soluble in water. High solubility affects the dissolution profile and it may cause dose dumping which is a result of too rapid release of the active agent. In this present invention, to provide an extended release and to control the release rate, release retarding agents have been used.

In this invention, the extended release composition comprises fesoterodine fumarate and at least one release retarding agent, optionally granulated and optionally compressed.

In one embodiment of this present invention, the amount of fesoterodine fumarate is between 0.5% and 25.0% w/w of the composition, preferably it is between 0.5% and 15.0% w/w of the composition.

In one embodiment of this present invention, the amount of release retarding agent is between 1.0 % and 60.0 % w/w, preferably 1.0 % and 55.0 % w/w, more preferably 5.0 % and 50.0 w/w of the composition.

According to this embodiment, the ratio of fesoteradine fumarate to the release retarding agent is in the range of between 0.5:60 and 25:1 by weight, preferably between 0.5:60 and 15:1 by weight, more preferably 0.5:10 and 10:1 by weight of the composition.

In one embodiment of this present invention, the composition comprises fesoterodin fumarate as an active ingredient and at least one polymer as a release retarding agent.

According to this embodiment, the polymer as release retarding agent is selected from the group comprising hydroxyl propyl methylcellulose (HPMC) such as HPMC E4M and HPMC K100, hydroxyethyl methylcellulose, hydroxypropyl cellulose, hydroxypropyl ethylcellulose, ethylcellulose, methacrylic acid – ethyl acrylate copolymer, polymethylmetacrylate or copolymers, polyvinyl acetate, polyvinyl alcohol, polyvinylpyrrolidine, glyceryl behenate, glyceryl dibehenate, polyethylene oxide, polyethylene glycol, cellulose acetate, vinyl acetate/crotonic acid copolymers, maleic anhydride/methyl vinyl ether copolymers, copolymer of acrylic or methacrylic acid esters, polyoxyethylene -alkyl ethers, sodium lauryl sulfate (SLS), silica or mixtures thereof.

Preferably the polymer release retarding agents are selected from the group comprising hydroxyl propyl methylcellulose, glyceryl dibehenate, polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) or silica or mixtures thereof.

Polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) and silica mixture is known as Kollidon SR.

Surprisingly, it has been found that, using the polyvinyl acetate as a release retarding agent, prevent instant release and avoid any dose dumping due to self-sealing property of polyvinyl acetate. Polyvinyl acetate is a hydrophobic polymer and is also referred to as PVAc. It is insoluble and does not strongly swell as other extended release polymers. PVAc, which is available as dispersion comprising povidone as a pore former and sodium lauryl sulfate (SLS) as a stabilizer/wetting agent. The povidone plays an important role in releasing the drug molecules from insoluble PVAc films and SLS provides an advantage for spreading the polymer during coating, hence leading to homogeneous films.

In one embodiment of this present invention, the amount of polyvinyl acetate is between 50% and 95 % by weight, preferably it is between 60 % and 95 % by weight, more preferably it is between 70 % and 90 % by weight of the Kollidon SR (a mixture of polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) and silica).

In one embodiment of this present invention, the amount of polyvinylpyrrolidone is between 5% and 45 %, preferably it is between 5 % and 40 % by weight, more preferably it is between 10 % and 30 % by weight of the Kollidon SR.

In one embodiment of this present invention, the rate of polyvinyl acetate to polyvinylpyrrolidone is 4:1 by weight of the Kollidon SR.

According to another embodiment of this invention, the extended release composition further comprises at least one pharmaceutically acceptable excipient which is selected from the group comprising stabilizers, diluents, lubricants, coating agents or the mixtures thereof.

In one embodiment of this present invention, the extended release composition comprises fructose-sucrose mixture as stabilizer.

According to one embodiment in the present invention, the fructose-sucrose mixture is a stabilizer which have binder properties. In addition, it further enhances excellent pharmacotechnical properties (flowability, compressibility and homogeneity).

In one embodiment of this present invention, the amount of the fructose-sucrose mixture is between 1.0% and 40.0% by weight of the composition, preferably it is between 5.0% and 35.0% by weight, more preferably it is between 10.0% and 30.0% by weight.

Suitable diluents are selected from the group comprising lactose monohydrate, microcrystalline cellulose, calcium carbonate, calcium phosphate dibasic, calcium phosphate tribasic, calcium sulfate, microcrystalline silicified cellulose, powdered cellulose, dextrates, dextrose, fructose, lactitol, lactose anhydrous, lactose dihydrate or mixtures thereof.

In one embodiment of this present invention, the extended release composition comprises lactose monohydrate- microcrystalline cellulose mixture as a diluent.

According to another embodiment of this invention, the amounts of diluents are between 5.0% and 50.0% w/w of the composition, preferably the amounts of diluents are between 7.0% and 40.0% w/w of the composition.

Suitable lubricants are selected from the group comprising from talc, calcium silicate, powdered cellulose, starch, colloidal silicon dioxide or mixtures thereof.

In one embodiment of this present invention, the extended release composition comprises talc as a lubricant.

According to another embodiment of this invention, lubricants are between 0.1% and 5.0% w/w of the composition.

According to another embodiments of the invention, the extended release composition of fesoteradine fumarate is in the dosage form of tablet, bilayer tablet, multilayer tablet, mini tablet, intraoral tablet, sublingual tablet, effervescent tablet, rapid release tablets, intra-tablet tablet, inlay tablet, tablet in tablet, modified release tablet, modified release providing coated tablet, coated tablet, film-coated tablet, pellet, sugar pellet, capsule, oral granule, powder coated bead system, microsphere, , capsule in capsule, dragee, sachet or oral administered film.

According to this embodiment the extended release composition of fesoteradin fumarate is preferably in the form of a tablet, most preferably a film-coated tablet.

According to this embodiment, the amount of film coating agents is between 0.1% and 5.0% w/w of the composition.

Suitable film coating agents are selected from the group comprising, polyvinyl alcohol, polyethylene glycol, polymethylmethacrylate derivatives, ethylcellulose dispersions (Surelease), hydroxypropyl cellulose, polyvinylpyrrolidone, vinyl acetate, glyceryl monocaprylocaprate, sodium lauryl sulphate, titanium dioxide, iron oxide, talc, dyes (i.e. Fd&c blue, indigo carmine aluminum lake), pigments or their mixtures.

According to this embodiment, preferably the film coating agents comprises opadry varieties, such as Opadry Amb II.

An embodiment of this present invention, each type of particle comprises at least one active agent.

In one embodiment of the invention, the extended release composition comprises;

0.5 % - 25.0 % by weight of fesoteradine fumarate

1.0 % - 40.0 % by weight of stabilizer

5.0 % - 50.0 % by weight of diluent

1.0 % - 60.0 % by weight of release retarding agent

1.0 % - 5.0 % by weight of lubricant

1.0 % - 10.0 % by weight of coating agent

In one embodiment of the invention, the extended release composition comprises;

0.50 % - 25.0 % by weight of fesoterodine fumarate

0.90 % - 35.0 % by weight of fructose

0.10 % - 5.00 % by weight of sucrose

2.50 % - 25.0 % by weight of lactose monohydrate

2.50 % - 25.0 % by weight of microcrystalline cellulose

0.20 % - 5.00 % by weight of glyceryl dibehenate

0.40 % - 23.0 % by weight of hydroxypropyl methylcellulose

0.40 % - 32.0% by weight of polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate and silica (Kollidon SR)

0.10 % - 10.00 % by weight of talc

1.00 % - 10.0 % by weight of coating agent

According to the above embodiment of the invention, Kollidon SR comprises;

50.0 % - 95.0 % by weight of polyvinyl acetate

5.00 % - 45.0 % by weight of polyvinylpyrrolidone

0.10 % - 3.00 % by weight of sodium lauryl sulfate

0.05 % - 2.00 % by weight of silica

In one embodiment of the invention, the extended release composition comprises;

0.5 % - 15.0 % by weight of fesoterodine fumarate

4.9 % - 29.0% by weight of fructose

0.1 % - 1.0% by weight of sucrose

3.0 % - 23.0% by weight of lactose monohydrate

4.0 % - 17.0% by weight of microcrystalline cellulose

1.0 % - 4.0% by weight of glyceryl dibehenate

2.0 % - 20.0% by weight of hydroxypropyl methylcellulose

2.0 % - 26.0% by weight of polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate and silica (Kollidon SR)
0.1 % - 10.0% by weight of talc
1.0% - 10.0% by weight of coating agent

According to the above embodiment of the invention, Kollidon SR comprises;
70.0 % - 90.0 % by weight of polyvinyl acetate
10.0 % - 30.0 % by weight of polyvinylpyrrolidone
0.1 % - 3.0 % by weight of sodium lauryl sulfate (SLS)
0.05 % - 2.0 % by weight of silica

The extended release composition of the present invention may be prepared by direct compression, wet or dry granulation, hot melt granulation, hot melt extrusion, fluidized bed granulation, extrusion/spheronization, slugging, spray drying or solvent evaporation.

Preferably, the extended release composition is prepared by wet granulation which is simple and cost-effective method. Also, this process helps to provide stability and dissolution profile of the tablet.
Process for preparing the extended release composition comprises the following steps;

a) mixing fesoterodine fumarate, fructose and sucrose,
b) granulating the mixture with water then, sieving,
c) drying the mixture at 40°C until the humidity is less than 0.5%, then sieving the mixture,
d) adding lactose monohydrate, microcrystalline cellulose, glyceryl dibehenate, hydroxypropyl methylcellulose, kollidon SR and then mixing,
e) then, adding talc and mixing,
f) then, pressing to form tablet,
g) coating tablets with coating agent.

It has been found that using wet granulation process, wherein granulating fesoterodine fumarate and polyvinyl acetate as release retarding agent with the addition of excipients for wet granulation showed an improved stability of fesoterodine fumarate in the granulate and in the final pharmaceutical composition.

Also, it has been found that when the composition is prepared with using water-based granulation, resulting compositions possess improved stability.

The given below examples describes the extended release composition comprising fesoterodine.

Example 1: Extended release composition comprising fesoterodine fumarate

Agents	Amount (% by weight of the total)
Fesoterodine fumarate	0.5 to 25.0
Release retarding agents	1.0 - 60.0
Diluents	5.0 - 50.0
Stabilizers	1.0 - 40.0
Lubricants	0.1 - 5
Coating agent	1.0 - 10.0
Total	**100**

Process for example 1:

The process for preparation of the modified release composition comprises the following steps:

a) mixing fesoterodine fumarate with at least two stabilizers

b) granulating the mixture with water then, sieving

c) drying the mixture at 40°c until the humidity is less than 0.5%, then sieving the mixture

d) adding diluents, release retarding agents and then mixing

e) then, adding lubricants and mixing

f) then, pressing to form tablet

g) optionally, coating tablets with coating agent

Example 2: Extended release composition comprising fesoteradine

Agents	Amount (% by weight of the total)
Fesoterodine fumarate	0.5 to 25.0
Fructose	0.9 - 35.0
Sucrose	0.1 - 5.0
Lactose monohydrate	2.5 - 25.0
Microcrystalline cellulose	2.5 - 25.0
Glyceryl dibehenate	0.2 - 5.0
Hydroxypropyl methylcellulose	0.4 - 23.0
Kollidon SR*	0.4 - 32.0
Talc	0.1 - 10.0
Coating agent**	1.0 - 10.0
Total	**100**

*** Kollidon SR comprising:**

Kollidon SR	Amount (% by weight of the mixture)
polyvinyl acetate	50.0 - 95.0
polyvinylpyrrolidone	5.00 - 45.0
sodium lauryl sulfate (SLS)	0.10 - 3.00
silica	0.05 - 2.00
Total	**100**

****Coating Agent is preferably Opadry Amb II**

a)	Polyvinyl alcohol	15 – 50 %
b)	Talc	15 – 50 %
c)	Titanium dioxide	10 - 40 %
d)	Glyceryl monocaprylocaprate	1.0 – 10.0%
e)	Fd&c blue #2/indigo carmine aluminum lake	1.0 – 5.0 %
f)	Sodium lauryl sulphate	1.0 – 5.0 %

Process for example 2:

The process for preparation of the modified release composition comprises the following steps:

g) mixing fesoterodine fumarate with fructose and sucrose

h) granulating the mixture with water then, sieving

i) drying the mixture at 40°C until the humidity is less than 0.5%, then sieving the mixture

j) adding lactose monohydrate, microcrystalline cellulose, glyceryl dibehenate, hydroxypropyl methylcellulose, Kollidon SR and then mixing

k) then, adding talc and mixing

l) then, pressing to form tablet

m) optionally, coating tablets with Opadry Amb II

Example 3: Extended release composition comprising fesoterodine

Agents	Amount (% by weight of the total)
Fesoterodine fumarate	0.5 - 15.0
Fructose	4.9 - 29.0
Sucrose	0.1 - 1.0
Lactose monohydrate	3.0 - 23.0
Microcrystalline cellulose	4.0 - 17.0
Glyceryl dibehenate	1.0 - 4.0
Hydroxypropyl methylcellulose	2.0 - 20.0
Kollidon SR*	2.0 - 26.0
Talc	0.1 - 10.0
Coating agent**	1.0 - 10.0
Total	**100**

Kollidon SR*comprising

Release Retarding Agents	Amount (% by weight of the mixture)
polyvinyl acetate	70.0 - 90.0
polyvinylpyrrolidone	10.0 - 30.0
sodium lauryl sulfate (SLS)	0.1 - 3.0
silica	0.05 - 2.00
Total	**100**

**Coating Agent is preferably Opadry Amb II

a) Polyvinyl alcohol 15 – 50 %
b) Talc 15 – 50 %
c) Titanium dioxide 10 - 40 %
d) Glyceryl monocaprylocaprate 1.0 – 10.0%
e) Fd&c blue #2/indigo carmine aluminum lake 1.0 – 5.0 %
f) Sodium lauryl sulphate 1.0 – 5.0 %

Process for example 3:

The process for preparation of the modified release composition comprises the following steps:

a) mixing fesoterodine fumarate with fructose and sucrose
b) granulating the mixture with water then, sieving
c) drying the mixture at 40°c until the humidity is less than 0.5%, then sieving the mixture
d) adding lactose monohydrate, microcrystalline cellulose, glyceryl dibehenate, hydroxypropyl methylcellulose, Kollidon SR and then mixing
e) then, adding talc and mixing
f) then, pressing to form tablet
g) optionally, coating tablets with Opadry Amb II

CLAIMS:

1. An extended release composition comprising fesoterodine fumarate and at least one release retarding agent .

2. The extended release composition according to claim 1, wherein the amount of fesoterodine fumarate is between 0.5% and 25.0% w/w of the composition, preferably it is between 0.5% and 15.0% w/w of the composition.

3. The extended release composition according to claim 1, wherein the amount of release retarding agent is between 1.0 % and 60.0 %, preferably 1.0 % and 55.0 %, more preferably 5.0 % and 50.0 w/w of the composition.

4. The extended release composition according to claim 2 or 3, wherein the ratio of fesoteradine fumarate to the release retarding agent is in the range of between 0.5: 60 and 25:1, preferably between 0.5:60 and 15:1 and more preferably 0.5:10 and 10:1 by weight of the composition.

5. The extended release composition according to claim 1, wherein the composition comprising fesoterodin fumarate as an active ingredient and at least one polymer as a release retarding agent.

6. The extended release composition according to claim 5, wherein at least one polymer as the release retarding agent is selected from the group comprising hydroxyl propyl methylcellulose,hydroxyethyl methylcellulose, hydroxypropyl cellulose, hydroxypropyl ethylcellulose, ethylcellulose, methacrylic acid – ethyl acrylate copolymer , polymethylmetacrylate or copolymers, polyvinyl acetate, polyvinyl alcohol, polyvinylpyrrolidine, glyceryl behenate, glyceryl dibehenate, polyethylene oxide, polyethylene glycol, cellulose acetate, vinyl acetate/crotonic acid copolymers, maleic anhydride/methyl vinyl ether copolymers, copolymer of acrylic or methacrylic acid esters, polyoxyethylene-alkyl ethers, sodium lauryl sulfate, silica or mixtures thereof.

7. The extended release composition according to claim 6, wherein the polymer release retarding agent is selected from the group comprising hydroxyl propyl methylcellulose, glyceryl dibehenate, polyvinyl acetate, polyvinylpyrrolidone, sodium

lauryl sulfate or silica or mixtures thereof, preferably it is selected from a mixture comprising polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate and silica.

8. The extended release composition according to claim 7, wherein the amount of polyvinyl acetate is between 50% and 95 % by weight of the polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) and silica mixture, preferably it is between 60 % and 95 % by weight, more preferably it is between 70 % and 90 % by weight of the said release retarding agent mixture.

9. The extended release composition according to claim 7, wherein the amount of polyvinylpyrrolidone is between 5% and 45 % by weight of the polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate and silica mixture, preferably it is between 5 % and 40 % by weight, more preferably it is between 10 % and 30 % by weight of the said release retarding agent mixture.

10. The extended release composition according to claim 8 or 9, wherein the rate of polyvinyl acetate to polyvinylpyrrolidone is 4:1 by weight in the polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate and silica mixture.

11. The extended release composition according to claim 1, further comprising at least one pharmaceutically acceptable excipient which is selected from the group comprising stabilizers, diluents, lubricants, coating agents or the mixtures thereof.

12. The extended release composition according to claim 11, wherein the extended release composition comprising the fructose-sucrose mixture as stabilizer.

13. The extended release composition according to claim 12, wherein the amount of the fructose-sucrose mixture is between 1.0% and 40.0% by weight of the composition, preferably it is between 5.0% and 35.0% by weight, more preferably it is between 10.0% and 30.0% by weight.

14. The extended release composition according to claim 11, wherein the diluents are selected from the group comprising lactose monohydrate, microcrystalline cellulose, calcium carbonate, calcium phosphate dibasic, calcium phosphate tribasic, calcium sulfate, microcrystalline silicified cellulose, powdered cellulose, dextrates, dextrose, fructose, lactitol. lactose anhydrous, lactose dihydrate or mixtures thereof.

15. The extended release composition according to claim 14, wherein the extended release composition comprising lactose monohydrate- microcrystalline cellulose mixture as a diluent.

16. The extended release composition according to claim 15, wherein the amounts of diluents are between 5.0% and 50.0% w/w of the composition, preferably the amounts of diluents are between 7.0% and 40.0% w/w of the composition.

17. The extended release composition according to any preceding claims, the composition comprising;
    a. 0.50 % - 25.0 % by weight of fesoterodine fumarate
    b. 0.90 % - 35.0 % by weight of fructose
    c. 0.10 % - 5.00 % by weight of sucrose
    d. 2.50 % - 25.0 % by weight of lactose monohydrate
    e. 2.50 % - 25.0 % by weight of microcrystalline cellulose
    f. 0.20 % - 5.00 % by weight of glyceryl dibehenate
    g. 0.40 % - 23.0 % by weight of hydroxypropyl methylcellulose
    h. 0.40 % - 32.0% by weight of polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) and silica
    i. 0.10 % - 10.00 % by weight of talc
    j. 1.00 % - 10.0 % by weight of coating agent

18. The extended release composition according to claim 17, wherein the mixture of polyvinyl acetate, polyvinylpyrrolidone, sodium lauryl sulfate (SLS) and silica comprising;
    a. 50.0 % - 95.0 % by weight of polyvinyl acetate
    b. 5.00 % - 45.0 % by weight of polyvinylpyrrolidone
    c. 0.10 % - 3.00 % by weight of sodium lauryl sulfate (SLS)
    d. 0.05 % - 2.00 % by weight of silica

19. A process for preparing the modified release composition according to claim 17, the composition comprising the following steps;
    a. mixing fesoterodine fumarate and at least two stabilizers,
    b. granulating the mixture with water then, sieving,

c. drying the mixture at 40°C until the humidity is less than 0.5%, then sieving the mixture,
d. adding diluents, release retarding agents and then mixing,
e. then, adding lubricants and mixing,
f. then, pressing to form tablet,
g. optionally, coating tablets with coating agent.

20. The extended release composition according to any preceding claims, wherein the composition is in the dosage form of tablet, bilayer tablet, multilayer tablet, mini tablet, intraoral tablet, sublingual tablet, effervescent tablet, rapid release tablets, intra-tablet tablet, inlay tablet, tablet in tablet, modified release tablet, modified release providing coated tablet, coated tablet, film-coated tablet, pellet, sugar pellet, capsule, oral granule, powder coated bead system, microsphere, capsule in capsule, dragee, sachet or oral administered film.

21. The extended release composition according to claim 20, wherein the composition is in the tablet form, most preferably in the film-coated tablet form.

22. The extended release composition according to claim 21, wherein the amount of film coating agents is between 0.1% and 10.0% by weight of the composition.

23. The extended release composition according to claim 22, wherein the film coating agents are selected from the group comprising, polyvinyl alcohol, polyethylene glycol, polymethylmethacrylate derivatives, ethylcellulose dispersions, hydroxypropyl cellulose, polyvinylpyrrolidone, vinyl acetate, glyceryl monocaprylocaprate, sodium lauryl sulphate, titanium dioxide, iron oxide, talc, dyes (i.e Fd&c blue, indigo carmine aluminum lake), pigments or their mixtures.