Status: Effectivity information can only be shown for content published to the website.

> Update information can only be shown for content published to the website.

Domperidone Oral Suspension

Details for the public consultation of this monograph are as follows:

EAG/Panel/Working Party	Medicinal Chemicals 1
Contact Details	graziella.li-ship@mhra.gov.uk jonathan.campbell@mhra.gov.uk
Deadline for Comment	30th September 2026
Target Publication Date (subject to change)	BP 2028
Notes	New monograph If limits are too restrictive, please provide batch/stability data to demonstrate that an increase is required.

Action and use

Peripheral dopamine receptor antagonist; antiemetic.

DEFINITION

Domperidone Oral Suspension is a suspension of Domperidone in a suitable vehicle.

The oral suspension complies with the requirements stated under Oral Liquids and with the following requirements.

Content of domperidone, $C_{22}H_{24}ClN_5O_2$

95.0 to 105.0% of the stated amount.

IDENTIFICATION

In the Assay, record the UV spectrum of the principal peak in the chromatograms obtained with solutions (1) and (2) with a diode array detector in the range of 190 to 400 nm.

The UV spectrum of the principal peak in the chromatogram obtained with solution (1) is concordant with that of the peak in the chromatogram obtained with solution (2);

the retention time of the principal peak in the chromatogram obtained with solution (1) is similar to that of the peak in the chromatogram obtained with solution (2).

TESTS

Acidity

pH of a 0.1% w/v solution, 5.8 to 6.8, Appendix V L.

Dissolution

Comply with the *dissolution test for tablets and capsules*, Appendix XII B1.

TEST CONDITIONS

(a) Use Apparatus 2, rotating the paddle at 50 revolutions per minute.
(b) Use 900 mL of *0.1M hydrochloric acid*, at a temperature of 37°, as the medium.

PROCEDURE

Carry out the method for *liquid chromatography*, Appendix III D, using the following solutions.

(1) Shake the container containing the oral suspension for 30 seconds and place a volume equivalent to one dose into each dissolution vessel. After 30 minutes withdraw a sample of the medium and filter (a 0.45-µm PVDF syringe filter is suitable). Use the filtered medium, diluted if necessary, to produce a solution expected to contain 0.0011% w/v of Domperidone.
(2) 0.0014% w/v solution of *domperidone maleate BPCRS*.

CHROMATOGRAPHIC CONDITIONS

(a) Use a stainless steel column (10 cm × 4.6 mm) packed with *end-capped octadecylsilyl silica gel for chromatography* (3 µm) (Phenomenex Luna C18(2) is suitable).
(b) Use gradient elution and the mobile phase described below.
(c) Use a flow rate of 1.5 mL per minute.
(d) Use a column temperature of 35°.
(e) Use a detection wavelength of 280 nm.
(f) Inject 100 µL of each solution.

MOBILE PHASE

Mobile phase A 0.5% w/v solution of *ammonium acetate*.

Mobile phase B *Methanol R*.

Time (Minutes)	Mobile phase A (% v/v)	Mobile phase B (% v/v)	Comment
0-5	50→20	50→80	linear gradient
5-7	20→0	80→100	linear gradient
7-8	0→50	100→50	linear gradient
8-15	50	50	re-equilibration

When the chromatograms are recorded under the prescribed conditions, the retention time of domperidone is about 5 minutes.

DETERMINATION OF CONTENT

Calculate the total content of domperidone, $C_{22}H_{24}ClN_5O_2$, in the medium from the chromatograms obtained and using the declared content of $C_{26}H_{28}ClN_5O_6$ in *domperidone maleate BPCRS*.

Each mg of $C_{26}H_{28}ClN_5O_6$ is equivalent to 0.7858 mg of $C_{22}H_{24}ClN_5O_2$.

LIMITS

The amount of domperidone released is not less than 80% (Q) of the stated amount.

Related substances

Carry out the method for *liquid chromatography*, Appendix III D, using the following solutions, prepared with solution A.

Solution A 50 volumes of 0.01M *hydrochloric acid* and 50 volumes of *methanol*.

(1) Shake a quantity of the oral solution containing 5 mg of Domperidone with 15 mL of solution A and dissolve with the aid of ultrasound. Allow to cool to room temperature and dilute to 25 mL with the same solvent. Centrifuge and filter (a 0.7-µm GMF syringe filter is suitable).
(2) Dilute 1 volume of solution (1) to 100 volumes and further dilute 1 volume to 10 volumes.
(3) 0.004% w/v of *domperidone impurity mixture EPCRS* (containing impurities A and D).
(4) 0.0254% w/v of *domperidone maleate BPCRS* and 0.015% w/v of *droperidol BPCRS*.

CHROMATOGRAPHIC CONDITIONS

(a) Use a stainless steel column (10 cm × 4.6 mm) packed with *base-deactivated end-capped octadecylsilyl silica gel for chromatography* (3 µm) (Hypersil BDS C18 is suitable).
(b) Use gradient elution and the mobile phase described below.
(c) Use a flow rate of 1.5 mL per minute.
(d) Use an ambient column temperature.
(e) Use a detection wavelength of 280 nm.
(f) Inject 10 µL of each solution.

MOBILE PHASE

Mobile phase A 0.5% w/v solution of *ammonium acetate*.

Mobile phase B *methanol R*.

Time (Minutes)	Mobile phase A (% v/v)	Mobile phase B (% v/v)	Comment
0-10	70→0	30→100	linear gradient
10-12	0	100	isocratic
12-14	0→70	100→30	linear gradient

Time (Minutes)	Mobile phase A (% v/v)	Mobile phase B (% v/v)	Comment
14-24	70	30	re-equilibration

SYSTEM SUITABILITY

The test is not valid unless in the chromatogram obtained with solution (4), the *resolution* between the peaks due to domperidone and droperidol is at least 2.5.

CALCULATION OF IMPURITIES

For each impurity, use the concentration of domperidone in solution (2).

For the reporting threshold, use the concentration of domperidone in solution (2).

For peak identification, use solution (3).

Domperidone retention time: about 7 minutes.

Relative retention: impurity A, about 0.4, droperidol, about 1.04 and impurity D+E, about 1.2.

Correction factors: impurity A, multiply by 1.3.

LIMITS

— the sum of impurity D & E: not more than 0.3%;

— unspecified impurities: for each impurity, not more than 0.2%;

— total impurities: not more than 0.5%;

— reporting threshold: 0.1%.

ASSAY

Carry out the method for *liquid chromatography*, Appendix III D, using the following solutions prepared with solution A.

Solution A 50 volumes of 0.01 M *hydrochloric acid* and 50 volumes of *methanol R*.

(1) Shake a weighed quantity of the oral solution containing 5 mg of Domperidone with 15 mL of solution A and dissolve with the aid of ultrasound. Allow to cool to room temperature and dilute to 25 mL with the same solvent. Centrifuge and filter (a 0.2-µm PVDF syringe filter is suitable).
(2) 0.0254% w/v of *domperidone maleate BPCRS*.

CHROMATOGRAPHIC CONDITIONS

The chromatographic conditions described under Dissolution may be used with an injection volume of 10 µL.

DETERMINATION OF CONTENT

Determine the *weight per mL* of the oral suspension, Appendix V G, and calculate the content of $C_{22}H_{24}ClN_5O_2$, weight in volume, using the declared content of $C_{26}H_{28}ClN_5O_6$ in *domperidone maleate BPCRS*.

Each mg of $C_{26}H_{28}ClN_5O_6$ is equivalent to 0.7858 mg of $C_{22}H_{24}ClN_5O_2$.

STORAGE

Domperidone Oral Suspension should be kept in an airtight container and protected from light.

IMPURITIES

The impurities limited by the requirements of this monograph include impurities A and D+E listed under Domperidone.