**Supplementary Table 1** Inclusion and exclusion criteria.

### Inclusion criteria

<table>
<thead>
<tr>
<th>Male or female aged</th>
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<tbody>
<tr>
<td>– Study 1: ≥5–&lt;18 years</td>
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<tr>
<td>– Study 2: ≥3–&lt;12 years</td>
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</tbody>
</table>

Documented diagnosis of NDO or idiopathic OAB [1]  

Body weight  
| Study 1: ≥20 kg  
| Study 2: ≥15 kg |

Patients with NDO not suffering from malnutrition or severely overweight, in the opinion of the investigator; weight and height of patients with idiopathic OAB within the normal percentiles (3rd to 97th) [2]  

Able to swallow study medication in accordance with the protocol  

Female patients of non-childbearing potential or who agreed to try not to become pregnant or breastfeed from screening through 28 days after study drug administration, consistently using two forms of highly effective birth control during this period[6]  

Patient and patient’s parent(s)/legal guardian(s) agreed that the patient would not participate in another interventional study while on treatment  

Patient and patient’s parent(s)/legal guardian(s) were willing and able to comply with the study requirements and with the concomitant medication restrictions

### Exclusion criteria

| Pregnancy (female patients of childbearing potential urine tested at screening and pre-dose on day 1) |

Known history of QTc prolongation  
Risk of QT prolongation (e.g. hypokalemia, family history of long QT syndrome)  
QTcB >460 ms°  

Abnormal mean resting pulse rate  
| Study 1: according to specified ranges: age 5–<8 years: <60 or >110 bpm; age 8–<12 years: <55 or >100 bpm; age 12–<18 years: <50 or >100 bpm  
| Study 2: >99th percentile [3] |

Any clinically significant ECG abnormality

Resting blood pressure  
| Study 1: abnormal mean resting SBP greater than the 95th percentile according to age and height and/or greater than 140 mmHg [4]  
| Study 2: patient had an established hypertension and an SBP or DBP >99th percentile of the normal range determined by sex, age, and height, plus 5 mmHg [4] |

Any clinically significant or unstable medical condition which, in the opinion of the investigator, precluded the patient from participating in the study

AST or ALT ≥2× the ULN or total bilirubin ≥1.5× the ULN
Severe renal impairment
- Study 1: eGFR (revised Schwartz) <30 mL/min/1.73 m²
- Study 2: eGFR (Larsson) <30 mL/min

Any other clinically significant out of range results for urinalysis, biochemistry, or hematology

History or current diagnosis of malignancy

Known or suspected hypersensitivity to mirabegron, other β3-adrenergic agonists, any of the excipients used in the tablet or suspension formulation, or previous severe hypersensitivity to any drug

Met any of the contraindications or precautions for use of mirabegron according to the investigator brochure

Previous use of mirabegron with last intake <12 days before planned reference day

Required treatment with any prohibited medications
- Any anticholinergic/antimuscarinic drugs within five half-lives prior to planned reference day
- Any drugs that are sensitive CYP2D6 substrates with a narrow therapeutic index or sensitive P-glycoprotein substrates within five half-lives prior to planned reference day
- Any moderate or strong CYP3A4/5 or P-glycoprotein inhibitors or inducers, including natural and herbal remedies
  - Study 1: within five half-lives prior to planned reference day
  - Study 2: within 4 weeks (inducers only) or five half-lives (inhibitors only) prior to planned reference day

Positive urinary drug screen test for drugs of abuse or positive alcohol breath test on day 1 (pre-dose)

Blood or blood products donation within 3 months prior to planned day

Participation in another clinical trial and/or had taken an investigational drug within 30 days (or five half-lives of the investigational drug, whichever is longer) prior to the planned reference day

Parent(s)/legal guardian(s) was an employee of the Astellas Group, any contract research organization involved, or the investigator site executing the study

Current, untreated constipation (or fecal impaction for patients with NDO). If the constipation was being consistently treated for the last month, the patient could have been included

Administration of intradetrusor botulinum toxin injections, except if given >4 months prior to screening and symptoms reappeared that were comparable with those before botulinum toxin injections

Current, symptomatic urinary tract infection on day 1 (pre-dose)

NOTE: study 1, children (aged ≥5–<12 years) and adolescents (aged ≥12–<18 years) with NDO or idiopathic OAB received mirabegron prolonged-release tablets; study 2, children with NDO (aged ≥3–<12 years) or idiopathic OAB (aged ≥5–<12 years) received mirabegron prolonged release oral suspension.
Criteria apply to both studies unless otherwise stated.

Consistent and correct usage of established oral contraception, injected or implanted hormonal methods of contraception, established intrauterine device or intrauterine system, barrier methods of contraception (condom or occlusive cap [diaphragm or cervical/vault caps]) with spermicidal foam/gel/film/cream/suppository, or effective surgical sterilization. In Norway, only one method of contraception was required.

Study 2 only.

Days −4 to 1.

Study 1 only.

ALT = alanine aminotransferase, AST = aspartate aminotransferase, CYP = cytochrome P450, DBP = diastolic blood pressure, ECG = electrocardiogram, eGFR = estimated glomerular filtration rate, NDO = neurogenic detrusor overactivity, OAB = overactive bladder, QTcB = QT interval corrected for heart rate by Bazett’s formula, SBP = systolic blood pressure, ULN = upper limit of normal.

References


