

## SUPPLEMENTARY MATERIAL

### Inclusion Criteria

The subjects were required to satisfy all of the following criteria to participate in the study.

1. Men or women ages 20 to 80.
2. Results of urodynamics performed within one year before screening. Diagnosis of neurogenic lower urinary tract dysfunction with stable neurological disease for more than 6 months before screening including:
  - 1) Central nervous system diseases
    - Brain diseases (cerebrovascular accident, Parkinson, etc.)
    - Spinal cord diseases (spondylosis, spinal cord injury, ossification of posterior longitudinal ligament, etc.)
  - 2) Peripheral nervous system disease
    - Diabetic neuropathy, after rectal cancer surgery, after uterine cancer surgery, etc.
3. Symptoms of urination (both were required):
  - 1) IPSS (International Prostatic Symptom Score)  $\geq 12$  and QoL (quality of life)  $\geq 3$
  - 2) Qmax (maximum flow rate)  $< 15$  mL/sec (with voiding volume  $\geq 120$  mL)
4. Written consent to participate in this study (women needed be sterilized or menopausal, or if there was a possibility of pregnancy, agree to have effective contraception during the duration of the trial).
5. Willing to follow the schedule and voluntarily complete research questionnaires and other research-related activities.

### Exclusion Criteria

The following subjects were ineligible to participate in the study.

1. Bladder outlet obstruction due to benign prostatic hyperplasia in men over 50 years of age (Prostate volume exceeding 30 g in rectal test or 30 mL in transrectal ultrasound, and bladder outlet obstruction index  $\geq 40$  in urodynamics results within 1 year before screening.).
2. For women, if they have dysuria due to severe pelvic organ prolapse (Pelvic Organ Prolapse International Continence Society stage, Pelvic Organ Prolapse Quantification stage  $\geq 2$ ).
3. For women, a history of stress incontinence, or a history of previous mid-urethral sling surgery.
4. For men over 50 years of age with clinical evidence of prostate cancer (PSA  $\geq 10$ ) (If  $4 \leq \text{PSA} < 10$ , result of biopsy should

be negative within the last 1 year.).

5. If a history of anatomical bladder outlet obstruction such as bladder neck constriction, urethral stricture.
6. If a history of bladder, urethra, or prostate surgery.
7. If having a urethral catheter.
8. If performing clean intermittent catheterization.
9. If you have severe urge incontinence.
10. If a history of urological cancer (bladder, prostate, urethral cancer) or who is currently receiving chemotherapy.
11. If urine nitrite results are positive.
12. If you currently have severe cardiovascular disease or severe cerebrovascular disease.
13. If you have orthostatic hypotension.
14. If you have liver dysfunction: serum aspartate aminotransferase, alanine aminotransferase is more than twice the normal upper limit.
15. If renal impairment: serum creatinine  $\geq 2.5$  mg/dL.
16. If  $\alpha$ -blocker or phosphodiesterase type-5 (PDE-5) inhibitor is administered within 2 weeks before screening (subjects who take  $\alpha$ -blockers or PDE-5 inhibitors can participate in this study after 2 weeks wash-out).
17. If new or discontinued or changed doses of cholinergic antagonist, cholinergic agonist, SSRI (selective serotonin reuptake inhibitor), TCA (tricyclic antidepressant), antidiuretic drug within 4 weeks prior to screening. (It can be taken if the dose is kept between 4 weeks before screening and end of study.).
  - 1) Anticholinergic agents: atropine, scopolamine, homatropine, cyclopentolate, tropicamide, dicyclomine, oxypentcyclimine, cilidinium, propanthline, methantheline, mepenzolate, pirenzepine, telenezepine, ipratropium, hemicholinium
  - 2) Cholinergic agonist: acetylcholine, methacholine, carbachol, bethanechol, muscarine, pilocarpine.
  - 3) SSRI: fluoxetine, paroxetine, sertraline, trazodone
  - 4) TCA: imipramine, amitriptyline, nortriptyline, doxepine, amoxapine
  - 5) Antidiuretic: desmopressin
18. If new or discontinued or changed doses of  $5\alpha$ -reductase inhibitor-based drugs within 12 weeks prior to screening (It can be taken if the dose is kept between 12 weeks before screening and end of study.)
  - 1)  $5\alpha$ -reductase inhibitors: finasteride, dutasteride
19. Pregnant or lactating women.
20. Subjects with hypersensitivity or a clinically significant hy-

persensitivity reaction when administered similar drug to this drug.

21. Subjects with genetic disorders related to lactose absorption (e.g., galactose intolerance, lactose dehydrogenase deficiency, glucose-galactose uptake disorder).
22. If other clinical trial drugs (including placebo) were given

within 30 days before the start of the study.

23. If, within 6 months of the commencement of the study, the investigator considers that participation in the study is inadequate due to abuse of drugs, alcohol, or other substances.
24. Subjects determined by the investigator that participation in clinical trials are inadequate for other reasons.