Pharmacological Tubular Organ Smooth Muscle Relaxation Through Rho-Kinase Inhibition

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OTHER INFORMATION

CATEGORIZED AS

» **Materials & Chemicals**

» Chemicals

» **Medical**

» Disease: Kidneys and Genito-Urinary System

» New Chemical Entities, Drug Leads

RELATED CASES

2025-843-0

BRIEF DESCRIPTION

A revolutionary approach to treating stone disease and improving ureteral distensibility through pharmacological means.

FULL DESCRIPTION

This technology encompasses the use of fasudil and its active metabolite, hydroxyfasudil, for the therapeutic relaxation of smooth muscle in organs with a lumen, such as the ureter, urethra, and bile duct, among others. It represents a novel pharmacological method to increase the distensibility of luminal organs, facilitating the passage of larger instruments during surgical interventions and potentially aiding in the medical expulsive therapy (MET) for obstructive ureteral stones.

SUGGESTED USES

· MET for obstructive ureteral stones.

· Pre-operative or adjunctive therapy to increase ureteral distensibility for surgical interventions.

· Treatment of lower urinary tract symptomatology due to benign prostatic hyperplasia (BPH) by relaxing the smooth muscle.

· Potential applications in other luminal organs surrounded by smooth muscle.

ADVANTAGES

· Directly increases ureteral distensibility, allowing for the safe passage of larger surgical instruments.

· Offers a potential alternative to surgical intervention for stone disease with a safe and tolerable side effect profile.

· Applies to a wide range of organs surrounded by smooth muscle, broadening its utility beyond urology.

· Provides a quantifiable increase in ureteral size, supporting its efficacy in clinical settings.

· Addresses the entire ureter, not just specific segments, unlike current MET medications.

PATENT STATUS

Patent Pending

RELATED MATERIALS

» Seyedamirvala, S., Tano, Z., et al. (2025). First in-vivo evaluation of pharmaceutical modulation of porcine ureteral distensibility. The Journal of Urology, 213 (5S).

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