

DA-8159, a Novel Selective PDE 5 Inhibitor, Induces Penile Erection in Rabbits with Acute Spinal Injury

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DA-8159 is a pyrazolopyrimidinone derivative showing potent and selective phosphodiesterase 5 inhibition. Previous studies showed that DA-8159 induces erection in a dose-dependent manner both in anesthetized and conscious animals. The aim of this study was to investigate the oral efficacy of DA-8159 in rabbits with acute spinal cord injury (ASCI). DA-8159 (0.3 to 10 mg/kg) was given orally to awake male albino rabbits with surgical transection of the spinal cord at the 10th thoracic vertebra. Erection was evaluated in a time-course manner by measuring the length of the uncovered penile mucosa. In results, DA-8159 induced a dose-dependent erection in ASCI rabbits. The oral efficacy of DA-8159 was potentiated and the effective doses were significantly decreased by intravenous sodium nitroprusside, a nitric oxide donor. Potentiation of the effect by a nitric oxide donor implies that DA-8159 would have enhanced activity during sexual arousal. These results demonstrate that DA-8159 may be useful for treatment of erectile dysfunction in patients with spinal cord injury.