Supplement File. Materials and Methods

1. Further evaluation of NORD-1 treatment

In experiment II, 12-week-old male Wistar ST rats were used (n=6). The rats were operated to record arterial pressure and intracavernous pressure (ICP) as described in the 'Evaluation of erectile function' subsection. Then, 100 μL NORD-1 (10^{-4} M) was injected into penis via the same route for ICP measurement using a T-shape stopcock. After few minutes, ICP was measured during electrostimulation of cavernous nerve for 8 Hz. In the middle of electrostimulation, penis was irradiated with 630–690 nm light (115 mW) at a distance of 2 cm. Then, ICP was measured during 630–690 nm light irradiation without electrostimulation of cavernous nerve.

2. Evaluation of the distribution of NORD-1 injecting to penis throughout the body

In experiment III, 12-week-old male Wistar ST rats were used (n=6). Under anesthesia, 100 μL NORD-1 (10^{-4} M) was injected into crura of the penis using 23-gauge needle. One hour after injection, penis and kidney samples were extracted and frozen in the O.C.T. compound. Ten-micron section of penis sample and twenty-micron section of kidney sample were cut and mounted on microscope slides. The slides were observed to detect NORD-1 using fluorescent microscope as described 'Localization of NORD-1 and cavernosum smooth muscle' subsection.

3. Red-light permeability experiment

Schematic image of red-light permeability experiment using pork-shoulder meat is represented in Supplement Fig. 4. MAX-302 xenon light source and optical power meter (HIOKI E.E. Corp., Nagano, Japan) were set vertically and 630–690 nm light (115 mW) was irradiated toward optical power meter. Then, pork-shoulder meats whose thickness varied from 0.5 cm to 1.0 cm were set between light source and optical power meter and 630–690 nm light was irradiated.