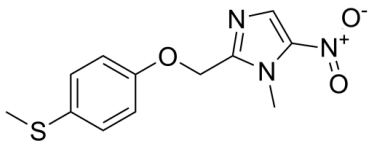
Data Sheet

Product Name:	Fexinidazole
Cat. No.:	CS-5535
CAS No.:	59729-37-2
Molecular Formula:	$C_{12}H_{13}N_3O_3S$
Molecular Weight:	279.31
Target:	Parasite
Pathway:	Anti-infection
Solubility:	DMSO : 50 mg/mL (ultrasonic);H_2O : < 0.1 mg/mL



BIOLOGICAL ACTIVITY:

Fexinidazole (HOE 239) is an orally active, potent nitroimidazole antitrypanosomal drug. Fexinidazole shows trypanocidal activity against ***T. brucei*** subspecies and strains with IC_{50}s of 0.7-3.3 μM (0.2-0.9 μg/ml). Fexinidazol has the potential for human sleeping sickness (HAT) caused by infection with ***T. brucei***[1]. ***In Vitro:*** Fexinidazole (HOE 239) has two principal metabolites, sulfoxide and sulfone. They have shown trypanocidal activity in vitro with IC_{50}s of 0.7-3.3 μM (0.2-0.9 μg/ml) range against all parasite strains tested[1].

In Vivo: Fexinidazole (HOE 239; 20-50 mg/kg/day of IP or 25-100 mg/kg/day of PO; four consecutive days) has antitrypanosomal activities[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [1] The compounds were tested in an AlamarBlue serial drug dilution assay in order to determine the 50% inhibitory concentrations (IC50s). Serial drug dilutions were prepared in 96-well microtiter plates containing the appropriate culture medium as described above for each parasite strain, and wells were inoculated with either 2,000 bloodstream forms for the T. b. rhodesiense or T. b. brucei assay or 10,000 trypanosomes for the T. b. gambiense assay. Cultures were incubated for 70 h at 37°C under a humidified 5% CO2 atmosphere. After this time, 10 μl of resazurin (12.5 mg resazurin dissolved in 100 ml PBS) was added to each well. The plates were incubated for an additional 2 to 4 h for T. b. rhodesiense and T. b. brucei and an additional 6 to 8 h for T. b. gambiense isolates. The plates were read in a SpectraMax Gemini XS microplate fluorescence scanner using an excitation wavelength of 536 nm and an emission wavelength of 588 nm. The IC50s were calculated by linear regression from the sigmoidal dose inhibition curves using SoftmaxPro software. Animal administration [1] Adult female NMRI mice weighing between 20 and 25 g at the beginning of the study were housed under standard conditions with food pellets and waterad libitum. The GVR35 mouse CNS model mimics the second stage of the disease. Five female NMRI mice per experimental group were inoculated i.p. with 2 × 104 T. b. brucei(GVR35) bloodstream forms. Treatment (i.p. or p.o.) with compound was given on five consecutive days from days 21 to 25 postinfection. Some experimental groups were treated twice daily with a time interval of 7 to 8 h. In all experiments with fexinidazole, a control group was treated on day 21 with a single intraperitoneal dose of diminazene aceturate at 40 mg/kg of body weight, which is subcurative since it clears the trypanosomes only in the hemolymphatic system and not in the CNS, leading to a subsequent reappearance of trypanosomes in the blood. Parasitemia was monitored twice per week in the first 5 weeks after treatment, followed by once a week up to 180 days postinfection. Surviving and aparasitemic mice at day 180 were considered cured and were euthanized. The day of relapse of the animals (including the cured mice) was recorded (as >180) to calculate the MRD.

References:

[1]. Kaiser M, et al. Antitrypanosomal activity of fexinidazole, a new oral nitroimidazole drug candidate for treatment of sleeping sickness. Antimicrob Agents Chemother. 2011 Dec;55(12):5602-8.

CAIndexNames:

1H-Imidazole, 1-methyl-2-[[4-(methylthio)phenoxy]methyl]-5-nitro-

SMILES:

O=[N+](C1=CN=C(COC2=CC=C(SC)C=C2)N1C)[O-]

Tel: 610-426-3128 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA