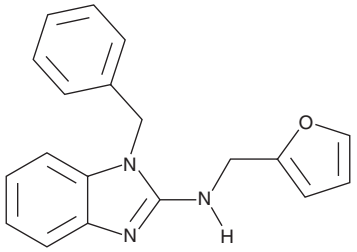
PRODUCT INFORMATION

AC1903

Item No. 25324

CAS Registry No.:	831234-13-0
Formal Name:	N-(2-furanylmethyl)-1-(phenylmethyl)-1H-benzimidazol-2-amine
MF:	$C_{19}H_{17}N_3O$
FW:	303.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 214, 286 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

AC1903 is supplied as a crystalline solid. A stock solution may be made by dissolving the AC1903 in the solvent of choice. AC1903 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of AC1903 in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

AC1903 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, AC1903 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. AC1903 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

AC1903 is an inhibitor of transient receptor potential canonical channel 5 (TRPC5; IC_{50} = 14.7 µM).[1] It is selective for TRPC5 over TRPC4 and TRPC6 at concentrations up to 100 and 30 µM, respectively. It inhibits TRPC5 in a concentration-dependent manner in HEK293 cells when used at concentrations ranging from 1 to 100 µM. AC1903 (30 µM) inhibits angiotensin II-induced production of reactive oxygen species (ROS) in wild-type podocytes and podocytes expressing a mutant angiotensin II type 1 (AT_1) receptor that cannot be inactivated and endocytosed. It also suppresses proteinuria as well as reduces pseudocyst formation and podocyte loss in an AT_1 receptor transgenic rat model of kidney disease when administered at a dose of 50 mg/kg twice per day. In a model of hypertension-induced focal segmental glomerulosclerosis (FSGS) using Dahl salt-sensitive rats, AC1903 decreases the rate of proteinuria when administered at the beginning of a high-salt diet and prevents progression when administered one week following initiation of a high-salt diet.

Reference

1. Zhou, Y., Castonguay, P., Sidhom, E.-H., *et al.* A small-molecule inhibitor of TRPC5 ion channels suppresses progressive kidney disease in animal models. *Science* **358(6368)**, 1332-1336 (2017).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM