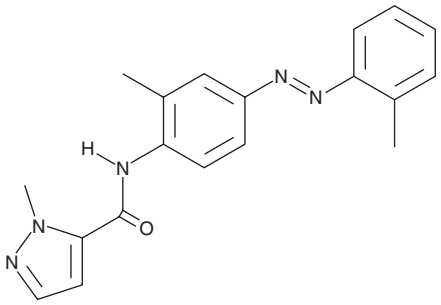
PRODUCT INFORMATION

CH 223191

Item No. 16154

CAS Registry No.:	301326-22-7
Formal Name:	1-methyl-N-[2-methyl-4-[2-(2-methylphenyl)diazenyl]phenyl]-1H-pyrazole-5-carboxamide
MF:	$C_{19}H_{19}N_5O$
FW:	333.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 233, 342 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

CH 223191 is supplied as a crystalline solid. A stock solution may be made by dissolving the CH 223191 in the solvent of choice, which should be purged with an inert gas. CH 223191 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of CH 223191 in these solvents is approximately 0.1, 25, and 30 mg/ml, respectively.

Description

The aryl hydrocarbon receptor (AhR) is a ligand-activated transcription factor that up-regulates many xenobiotic metabolizing enzymes, particularly in response to planar aromatic hydrocarbons.[1] CH 223191 is a potent and specific antagonist of AhR that blocks activation by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD, IC_{50} = 0.03 µM).[2] It prevents the induction of cytochrome P450 1A1 by TCDD in HepG2 cells and in livers of mice.[2] Through its effects on AhR, CH 223191 suppresses Th17 cell differentiation both *in vitro* and *in vivo* and alters the expression of homeobox transcription factors necessary for the differentiation of embryonic stem cells to cardiomyocytes.[3,4]

References

1. Gu, Y.Z., Hogenesch, J.B., and Bradfield, C.A. The PAS superfamily: Sensors of environmental and developmental signals. *Annu. Rev. Pharmacol. Toxicol.* **40**, 519-561 (2000).
2. Kim, S.-H., Henry, E.C., Kim, D.-K., *et al*. Novel compound 2-methyl-2H-pyrazole-3-carboxylic acid (2-methyl-4-o-tolylazo-phenyl)-amide (CH-223191) prevents 2,3,7,8-TCDD-induced toxicity by antagonizing the aryl hydrocarbon receptor. *Mol. Pharmacol.* **69(6)**, 1871-1878 (2006).
3. Veldhoen, M., Hirota, K., Christensen, J., *et al*. Natural agonists for aryl hydrocarbon receptor in culture medium are essential for optimal differentiation of Th17 T cells. *J. Exp. Med.* **206(1)**, 43-49 (2009).
4. Wang, Q., Chen, J., Ko, C.I., *et al*. Disruption of aryl hydrocarbon receptor homeostatic levels during embryonic stem cell differentiation alters expression of homeobox transcription factors that control cardiomyogenesis. *Environ. Health Perspect.* **121(11-12)**, 1334-1343 (2013).

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