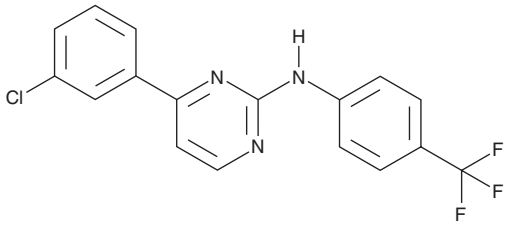
PRODUCT INFORMATION

VAF347

Item No. 37328

CAS Registry No.:	574759-62-9
Formal Name:	4-(3-chlorophenyl)-N-[4-(trifluoromethyl) phenyl]-2-pyrimidinamine
MF:	$C_{17}H_{11}ClF_3N_3$
FW:	349.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 288 nm
Supplied as:	A 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

VAF347 is supplied as a solid. A stock solution may be made by dissolving the VAF347 in the solvent of choice, which should be purged with an inert gas. VAF347 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of VAF347 in DMSO is approximately 1 mg/ml and approximately 5 mg/ml in DMF. VAF347 is slightly soluble in ethanol.

Description

VAF347 is an agonist of the aryl hydrocarbon receptor (AhR).[1] It binds to AhR in a radioligand binding assay using guinea pig hepatic cytosol and induces mRNA expression of the AhR target gene *CYP1A1* in isolated human peripheral blood mononuclear cells (PBMCs) when used at a concentration of 50 nM. VAF347 (20 µM) inhibits differentiation of HL-60 leukemia cells induced by 1,25-dihydroxy vitamin D_3 (calcitriol; Item No. 71820) and promotes differentiation of HL-60 cells induced by all-*trans* retinoic acid (Item No. 11017).[2] It decreases serum IgE levels and lung and bronchoalveolar lavage fluid (BALF) eosinophil infiltration in an ovalbumin-induced mouse model of allergic inflammation when administered at a dose of 30 mg/kg.[3] VAF347 (30 mg/kg) also prevents retinal capillary degeneration in a mouse model of diabetic retinopathy induced by streptozotocin (STZ; Item No. 13104).[4]

References

1. Lawrence, B.P., Denison, M.S., Novak, H., *et al.* Activation of the aryl hydrocarbon receptor is essential for mediating the anti-inflammatory effects of a novel low-molecular-weight compound. *Int. J. Mol. Sci.* **112(4)**, 1158-1165 (2008).
2. Ibabao, C.N., Bunaciu, R.P., Schaefer, D.M.W., *et al.* The AhR agonist VAF347 augments retinoic acid-induced differentiation in leukemia cells. *FEBS Open Bio.* **5**, 308-318 (2015).
3. Ettmayer, P., Mayer, P., Kalthoff, F., *et al.* A novel low molecular weight inhibitor of dendritic cells and B cells blocks allergic inflammation. *Am. J. Respir. Crit. Care Med.* **173(6)**, 599-606 (2006).
4. Zapadka, T.E., Lindstrom, S.I., Batoki, J.C., *et al.* Aryl hydrocarbon receptor agonist VAF347 impedes retinal pathogenesis in diabetic mice. *Int. J. Mol. Sci.* **22(9)**, 4335 (2021).

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