

Product Data Sheet

Product Name: SAR-20347

Cat. No.: GC19320

Chemical Properties

Cas. No. 1450881-55-6

SMILES O=C(C1=C(NC2=CC=C(C(N3CCOCC3)=O)C=C2)OC(C4=C(F)C=CC=C4Cl)=N1)N

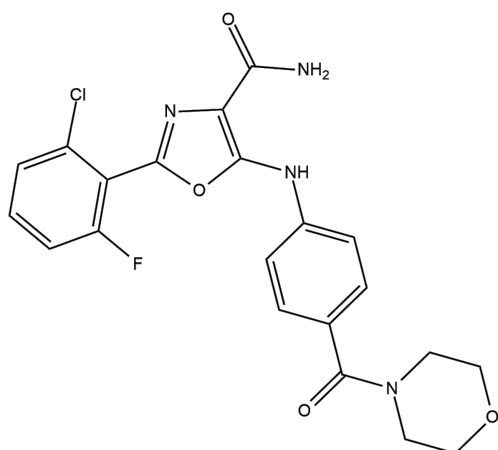
Formula C21H18ClFN4O4 M.Wt 444.84

Solubility DMSO : 100 mg/mL (224.80 mM) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Kinase experiment:

Kinases are prepared in Base Reaction Buffer (20 mM Hepes pH 7.5, 10 mM MgCl₂, 1 mM EGTA, 0.02% Brij35, 0.02 mg/mL BSA, 0.1 mM Na₃VO₄, 2 mM DTT, 1% DMSO) and substrate is added with 1.5 mM CaCl₂, 16 µg/mL Calmodulin, and 2 mM MnCl₂. Varying concentrations of SAR-20347 in DMSO are added to the kinase reaction along with 10 µM 33P-ATP (activity 0.01 µCi/µL final) for IC₅₀ determination[1].

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Cell experiment: Cells are plated in a 96-well v-bottom plate in starvation medium, incubated with SAR-20347 (0.5% DMSO) for 20 minutes at 37°C, 5% CO₂, and stimulated with individual cytokines. P-STAT levels are measured in duplicate using MSD plates following the manufacturer's instructions (MSD). The IC₅₀ is determined by subtracting background (no cytokine) and relative to DMSO/cytokine control[1].

Animal experiment: Female 7 to 9 week old C57BL/6 mice are used. Mice are administered vehicle or 50 mg/kg SAR-20347 by oral gavage 30 minutes prior to application of 62.5 mg 5% imiquimod cream or control cream. Another dose of vehicle or 50 mg/kg SAR-20347 is given 5.5 hours following the first dose. This treatment is repeated for 5 days and on day 3 and 4, animals are injected with 100 uL saline to prevent dehydration. Each day, the mice are assessed by the same researcher for redness. On the 6th day, the animals are euthanized and photographs are taken[1].

References:

[1]. Works MG, et al. Inhibition of TYK2 and JAK1 ameliorates imiquimod-induced psoriasis-like dermatitis by inhibiting IL-22 and the IL-23/IL-17 axis. J Immunol. 2014 Oct 1;193(7):3278-87.

Background

SAR-20347 is an inhibitor of TYK2, JAK1, JAK2 and JAK3 with IC₅₀s of 0.6, 23, 26 and 41 nM, respectively.

When NK-92 cells are stimulated with IL-12, SAR-20347 potently inhibits IL-12-mediated STAT4 phosphorylation, a TYK2-dependent event, with an IC₅₀ of 126 nM. SAR-20347 demonstrates a selectivity of TYK2>JAK1>JAK2>JAK3. Cells without IL-12 in the culture media have no measureable IFN- γ , while cells incubated with IL-12 and SAR-20347 demonstrate dose-dependent inhibition of IFN- γ production. SAR-20347 dose-dependently inhibits the production of secreted embryonic alkaline phosphatase (SEAP) with greatest inhibition occurring with 5 μ M of SAR-20347 in these experiments[1].

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

60 mg/kg SAR-20347 inhibits the production of IFN- γ in the serum by 91% compare to vehicle-treated animals, demonstrating that SAR-20347 can inhibit TYK2 signaling in vivo. SAR-20347 treatment significantly reduces IL-17 production as measured by average signal intensity, consistent with the gene expression analysis[1].

References:

[1]. Works MG, et al. Inhibition of TYK2 and JAK1 ameliorates imiquimod-induced psoriasis-like dermatitis by inhibiting IL-22 and the IL-23/IL-17 axis. J Immunol. 2014 Oct 1;193(7):3278-87.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA