

Product Data Sheet

Product Name: SR-717
Cat. No.: GC61293

Chemical Properties

Cas. No. 2375421-09-1

SMILES O=C(O[Li])C1=CC(F)=C(F)C=C1NC(C2=NN=C(N3C=CN=C3)C=C2)=O

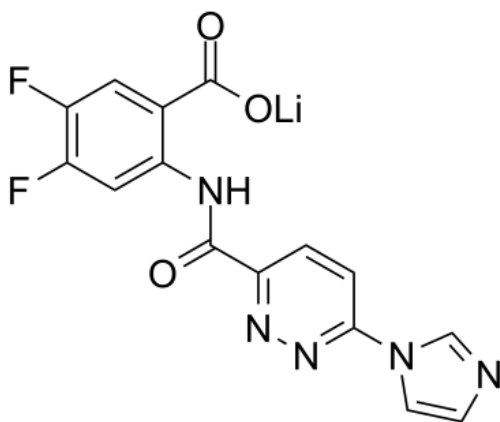
Formula $C_{15}H_8F_2LiN_5O_3$ M.Wt 351.19

Solubility DMSO: 14.29 mg/mL (40.69 mM); Storage Store at -20°C
Water: < 0.1 mg/mL (insoluble)

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

Cell experiment [1]:

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Cell lines	DC2.4 cells (mouse dendritic cell line), RAW264.7 cells (mouse macrophage cell line)
Preparation Method	DC2.4 cells were maintained in RPMI 1640 medium supplemented with 10% FBS at 37°C, 5% CO ₂ . Cells were treated with SR-717 at 10μM for 24 hours, followed by western blot analysis of p-TBK1 and p-IRF3, ELISA for IFN-β, and flow cytometry for CD80 and CD86 expression. RAW264.7 cells were polarized to M2 phenotype and then treated with SR-717 at 10μM for 24 hours, followed by flow cytometry for CD206 and CD86 expression.
Reaction Conditions	10μM; 24h
Applications	SR-717 increased phosphorylation of TBK1 and IRF3. SR-717 elevated IFN-β production. SR-717 decreased CD206 expression and increased CD86 expression on macrophages.
Animal experiment [2]:	
Animal models	C57BL/6J mice
Preparation Method	6-8-week-old male C57BL/6J mice were subjected to femoral fracture surgery. From the day after surgery, mice were intraperitoneally administered SR-717 at 30mg/kg daily for one week, followed by micro-CT scanning at 2 and 4 weeks post-surgery, and safranin O-fast green staining and TRAP staining of femoral specimens at 14 days post-fracture for tissue analysis.
Dosage form	30mg/kg; i.p.; daily for one week

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Applications	SR-717 increased bone tissue volume, bone volume fraction and bone mineral density. SR-717 increased STING protein expression in callus tissue. SR-717 increased cartilage area. SR-717 increased TRAP-positive osteoclast number on bone surface.
References: [1] Miao Z, Song X, Xu A, et al. Targeted Delivery of STING Agonist via Albumin Nanoreactor Boosts Immunotherapeutic Efficacy against Aggressive Cancers. <i>Pharmaceutics</i> . 2024 Sep;16(9):1216. [2] Zheng M, Zhao L, Nian S, et al. cGAS-STING pathway mediation in osteoclast function and bone fracture healing. <i>Front Immunol</i> . 2026;17:1789655.	

Background

SR-717 is a non-nucleotide STING agonist. SR-717 activates STING in ISG-THP1 (WT) and ISG-THP1 cGAS KO (cGAS KO) cells ($EC_{50}=2.1\mu M, 2.2\mu M$). SR-717 acts as a cGAMP mimetic to induce the closed conformation of STING protein. SR-717 thereby activates downstream phosphorylation of TBK1, IRF3 and STAT3 and promotes IFN- β expression. SR-717 promotes infiltration and activation of immune cells such as CD8⁺ T cells and NK cells, thereby inhibiting tumor growth. SR-717 can be used for cancer and inflammation/immunity related research^[1-4].

In vitro, SR-717 (10 μM) treatment of Caski and HeLa cervical cancer cells for 6h reduced HPV16/18 E7 oncoprotein levels and inhibited cell proliferation and colony formation^[5]. SR-717 (10 μM) treatment of DC2.4 cells for 24h upregulated p-TBK1 and p-IRF3 expression, promoted IFN- β secretion, and upregulated CD80 and CD86 expression to promote dendritic cell maturation^[6]. SR-717 (20 μM) treatment of MODE-K cells for 12h increased cell viability, inhibited apoptosis, and upregulated expression of STING, p-TBK1, p-p65, STAT3, and p-STAT3^[7].

In vivo, intratumoral injection of SR-717 (30mg/kg) into A/J mice and C57BL/6 mice bearing Neuro-2A neuroblastoma cells and CT-2A glioblastoma cells every 3 days for 3 cycles significantly inhibited

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tumor growth of neuroblastoma and glioblastoma^[8]. In neonatal mice at postnatal day 5, after induction of germinal matrix hemorrhage, a single intraperitoneal injection of SR-717 (30mg/kg) was administered immediately. SR-717 increased the number of microglia and proinflammatory cytokine levels in the perilesional area and aggravated the decrease of tight junction proteins ZO-1 and occludin^[9]. In C57BL/6J mice with femoral fracture, daily intraperitoneal injection of SR-717 (30mg/kg) for 1 week promoted fracture healing, manifested as increased bone structural parameters such as bone tissue volume, bone volume fraction, and bone mineral density, and increased cartilage formation^[10].

References:

- [1] Chin EN, Yu C, Vartabedian VF, et al. Antitumor activity of a systemic STING-activating non-nucleotide cGAMP mimetic. *Science*. 2020 Aug 21;369(6506):993-999.
- [2] Wang J, Geng T, Yao X, et al. GDF15 attenuates Parkinson's disease progression via suppressing the activation of cGAS-STING pathway. *Molecular and Cellular Biochemistry*. 2025;480:4449-4466.
- [3] Fu H, Guo X, Fang F, et al. STING pathway activation with cisplatin polyprodrug nanoparticles for chemo-immunotherapy in ovarian cancer. *J Control Release*. 2025 May 10;381:113565.
- [4] Caldwell SE, Janosko CP, Deiters A. Development of a light-activated STING agonist. *Org Biomol Chem*. 2024 Jan 3;22(2):302-308.
- [5] Huang X, Huo L, Xiao B, et al. Activating STING/TBK1 suppresses tumor growth via degrading HPV16/18 E7 oncoproteins in cervical cancer. *Cell Death Differ*. 2024;31(1):78-89.
- [6] Miao Z, Song X, Xu A, et al. Targeted Delivery of STING Agonist via Albumin Nanoreactor Boosts Immunotherapeutic Efficacy against Aggressive Cancers. *Pharmaceutics*. 2024 Sep;16(9):1216.
- [7] Fang D, Duan W, Zhai X, et al. SR-717, a Non-Nucleotide STING Agonist, Displayed Anti-Radiation Activity in a IL-6 Dependent Manner. *The FASEB Journal*. 2025;39:e70644.
- [8] Lv Z, Wang T, Fan R, et al. Antitumor effects of STING agonists on nervous system tumors via tumor-intrinsic STING-STAT1-mediated HMGN2 expression. *Cancer Biol Med*. 2026;23:133-153.
- [9] Wang Y, Yin X, Zhang X, et al. Inhibition of cGAS reduces brain injury and facilitates neurological

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recovery via the STING-mediated signaling pathway after germinal matrix hemorrhage in neonatal mice. J Integr Neurosci. 2025;24(8):39286.

[10] Zheng M, Zhao L, Nian S, et al. cGAS-STING pathway mediation in osteoclast function and bone fracture healing. Front Immunol. 2026;17:1789655.

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