Product Datasheet

ofirnoflast

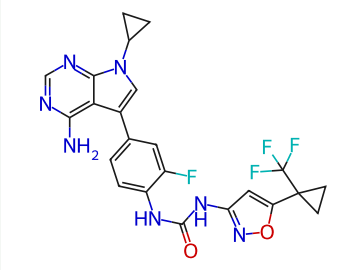
Catalog No. **BP-01143** · CAS **2731294-23-6** · Form **free base** · Physical state **solid** · Color **white to off-white** · Version **1.0** · Revision **2026-11-12**

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Target	Research area
NEKs; NOD-like Receptor (NLR); Caspase; Apoptosis; Pyroptosis; NF-κB	**Cardiovascular Disease; Inflammation/Immunology; Cancer**

Molecular formula	$C_{23}H_{19}F_4N_7O_2$
Molecular weight	**501.4363**

STRUCTURE



DESCRIPTION

Ofirnoflastum (Ofirnoflast) is a serine/ threonine-protein kinase Nek7 inhibitor, with anti inflammatory effect .

BIOLOGICAL ACTIVITY

Ofirnoflastum binds an allosteric site adjacent to NEK7’s ATP-binding pocket, induces conformational shifts, disrupts NEK7-NLRP3 binding, blocks NLRP3 inflammasome assembly, spares NEK7’s physiological functions, and suppresses caspase-1, caspase-8, NF-κB, and TNF activity. Ofirnoflastum reduces pro-inflammatory cytokine production, suppresses ASC specks, IL-1β release, pyroptotic cell death, and leukemic burden, induces apoptosis and erythroid differentiation, restores hematopoiesis, and improves outcomes in colitis models. Ofirnoflastum can be used for the research of myelodysplastic syndromes, chronic myelomonocytic leukemia, and acute myeloid leukemia

SOLUBILITY

soluble in DMSO

In vitro	DMSO : ≥ 100 mg/mL

REFERENCES

[1]. Devan Bursey, et al. The novel allosteric NEK7 inhibitor ofirnoflast (HT-6184) suppresses IL-8 and other pro-inflammatory cytokines in patients with low-risk myelodysplastic syndrome and symptomatic anemia. Blood Volume 146, Supplement 1, 3 November 2025, Page 2092.

[2]. Devan Bursey, et al. The novel allosteric NEK7 inhibit ofirnoflast (HT-6184) reduces oxidized mitochondrial DNA in patients with low-risk myelodysplastic syndrome. Blood Volume 146, Supplement 1, 3 November 2025, Page 2093.

[3]. Mollard A, et al. Ofirnoflast: a first-in-class NEK7-targeted inhibitor of the NLRP3 inflammasome. J Drug Target. 2026;34(1):100-112.

[4]. Divij Verma, et al. Ofirnoflast, a novel inflammasome inhibitor, rewires transcriptional programs and shows clinical and preclinical efficacy in myeloid neoplasms. Blood Volume 146, Supplement 1, 3 November 2025, Page 323.

[5]. Varun Bafna, et al. The novel allosteric NEK7 inhibitor ofirnoflast (HT-6184) demonstrates robust and sustained hematologic response in subjects with IPSS-R very low, low or intermediate risk myelodysplastic syndrome (MDS) and symptomatic anemia. Blood Volume 146, Supplement 1, 3 November 2025, Page 5622.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com
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