

Product Datasheet

SSK1

Catalog No. **BP-02398** · CAS **2629250-69-5** · Form **free base** · Physical state **solid** · Color **White to off-white** · Version **1.0** · Revision **2026-09-10**

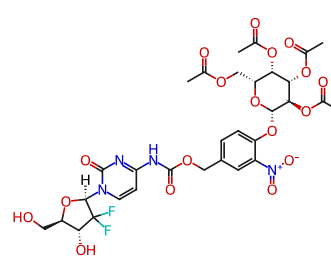
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Target p38 MAPK; Apoptosis	Research area Inflammation/Immunology
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Molecular formula **C₃₁H₃₄F₂N₄O₁₈**

Molecular weight **788.6145**

STRUCTURE



DESCRIPTION

SSK1, a senescence-specific killing compound, is a β -galactosidase-targeted proagent attenuates inflammation. SSK1 is activated by lysosomal β -galactosidase and selectively killed senescent cells through the activation of p38 MAPK and induction of apoptosis.

BIOLOGICAL ACTIVITY

In Vitro

SSK1 (0.5 μ M; 12-72 hours) activates the phosphorylation levels of both p38 MAPK and MKK3/MKK6 in senescent cells. SSK1 kills senescent cells through the activation of the p38 MAPK signaling pathway. SSK1 is able to induce mitochondrial DNA damage in senescent cells.

? SSK1 (0.01-1 μ M; 3 days) selectively and potently eliminates β -galactosidase-positive senescent cells within a wide therapeutic window.

In Vivo

SSK1 (0.5 mg/kg; i.p.; two days every week; for four weeks) could eliminate senescent cells and decrease senescence-associated markers in lung-injured mice.

? In aged mice (20-month-old), SSK1 (0.5 mg/kg; 3 days every 2 weeks for 8 weeks) effectively clears senescent cells in different tissues, decreases the senescence- and age-associated gene signatures, attenuates low-grade local and systemic inflammation, and restores physical function.

SOLUBILITY

soluble in DMSO

REFERENCES

[1]. Yusheng Cai, et al. Elimination of senescent cells by β -galactosidase-targeted prodrug attenuates inflammation and restores physical function in aged mice. Cell Res. 2020 Jul;30(7):574-589.

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