

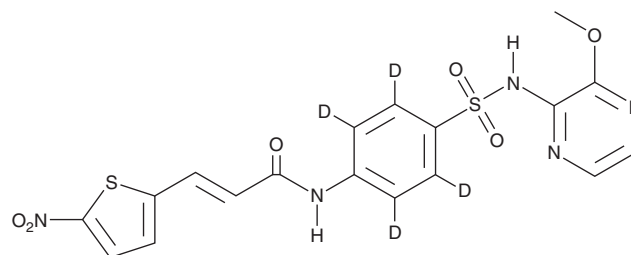
PRODUCT INFORMATION



Necrosulfonamide-d₄

Item No. 34702

CAS Registry No.: 1795144-22-7
Formal Name: N-(4-(N-(3-methoxypyrazin-2-yl)sulfamoyl)phenyl)-2,3,5,6-d₄)-3-(5-nitrothiophen-2-yl)acrylamide
Synonym: NSA-d₄
MF: C₁₈H₁₁D₄N₅O₆S₂
FW: 465.5
Chemical Purity: ≥98% (Necrosulfonamide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
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

Necrosulfonamide-d₄ is intended for use as an internal standard for the quantification of necrosulfonamide by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Necrosulfonamide-d₄ is supplied as a solid. A stock solution may be made by dissolving the necrosulfonamide-d₄ in the solvent of choice, which should be purged with an inert gas. Necrosulfonamide-d₄ is slightly soluble in DMSO and methanol.

Description

Necrosulfonamide is an inhibitor of necroptosis, apoptosis, and pyroptosis.^{1,2} It inhibits IL-8-induced increases in receptor-interacting serine/threonine kinase 1 (RIPK1), RIPK3, mixed lineage kinase domain-like protein (MLKL), caspase-3, and caspase-8 levels, as well as IL-8-induced necroptosis and apoptosis in isolated human nucleus pulposus cells.¹ Necrosulfonamide binds to gasdermin D and inhibits NLRP3- and pyrin-mediated pyroptosis in mouse bone marrow-derived macrophages (BMDMs) when used at a concentration of 5 μM.² *In vivo*, necrosulfonamide (20 mg/kg) increases survival in a mouse model of LPS-induced sepsis. It also improves motor function and reduces spinal edema in a mouse model of surgically induced spinal cord injury (SCI).³

References

1. Zhang, Q.-X., Guo, D., Wang, F.-C., *et al.* Necrosulfonamide (NSA) protects intervertebral disc degeneration via necroptosis and apoptosis inhibition. *Eur. Rev. Med. Pharmacol. Sci.* **24(5)**, 2683-2691 (2020).
2. Rathkey, J.K., Zhao, J., Liu, Z., *et al.* Chemical disruption of the pyroptotic pore-forming protein gasdermin D inhibits inflammatory cell death and sepsis. *Sci. Immunol.* **3(26)**, eaat2738 (2018).
3. Jiao, J., Wang, Y., Ren, P., *et al.* Necrosulfonamide ameliorates neurological impairment in spinal cord injury by improving antioxidative capacity. *Front. Pharmacol.* **10**, 1538 (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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