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Product Data Sheet

Salcaprozate-d₄ sodium

Cat. No.: HY-114299S

Molecular Formula: C₁₅H₁₆D₄NNaO₄

Molecular Weight: 305.34

Target: Isotope-Labeled Compounds

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of

Analysis.

BIOLOGICAL ACTIVITY

Description	Salcaprozate-d4 (sodium) is a deuterated labeled Salcaprozate (sodium) $^{[1]}$. Salcaprozate sodium (SNAC), an oral absorption promoter, and has the potential as a delivery agent for oral forms of heparin and insulin. Salcaprozate sodium could increase passive transcellular permeation across small intestinal epithelia based on increased lipophilicity arising from non-covalent macromolecule complexation $^{[2][3]}$.
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs $^{[1]}$. SNAC (12.5-400 µg/mL; 24 h) has no toxicity to Caco-2 cells, and the survival percentage is above 90% when SNAC is 200 µg/mL $^{[4]}$. SNAC (50 and 200 µg/mL) improves the apparent permeability coeffcient (Papp) of RA and SA-B by 2.14-fold and 3.68-fold compared with the Papp of SAs solution $^{[4]}$. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	SNAC improves the oral absorption of both R1 and SAs and enhances bioavailability in rats ^[4] . SNAC (2000 mg/kg/d; oral gavage for 13 weeks) related mortality is evident only at the 2000-mg/kg/d level, 20% among males and 50% among females; no clear cause of death is evident ^[2] . SNAC (100-1000 mg/kg/d; oral gavage for 13 weeks) induces no mortality in the Wistar rat study at doses up to 1000 mg/kg/d ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Riley MGI, et, al. Subchronic oral toxicity of salcaprozate sodium (SNAC) in Sprague-Dawley and Wistar rats. Int J Toxicol. Jul-Aug 2009; 28(4):278-93.
- [2]. Twarog C, et, al. Intestinal Permeation Enhancers for Oral Delivery of Macromolecules: A Comparison between Salcaprozate Sodium (SNAC) and Sodium Caprate (C 10). Pharmaceutics. 2019 Feb 13; 11(2):78.
- [3]. Li Y, et, al. Impact of Sodium N-[8-(2-Hydroxybenzoyl)amino]-caprylate on Intestinal Permeability for Notoginsenoside R1 and Salvianolic Acids in Caco-2 Cells Transport and Rat Pharmacokinetics. Molecules. 2018 Nov 16; 23(11):2990.
- $[4]. \ Russak\ EM, et\ al.\ Impact\ of\ Deuterium\ Substitution\ on\ the\ Pharmacokinetics\ of\ Pharmaceuticals.\ Ann\ Pharmacother.\ 2019\ Feb; 53(2): 211-216.$

 $\label{lem:caution:Product} \textbf{Caution: Product has not been fully validated for medical applications. For research use only.}$

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