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Zuschläge

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- Trockeneiszuschlag
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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

PRODUCT INFORMATION



¹³C₂₈-Bongkreic Acid Item No. 39454

Formal Name: (2E,4Z,6R,8Z,10E,14E,17S,18E,20Z)-20-((carboxy-¹³C)methyl-¹³C)-6-(methoxy-¹³C)-2,5,17-tri(methyl-¹³C)docosa-2,4,8,10,14,18,20-heptaenedioic-1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22-¹³C₂₂ acid

Synonym: ¹³C₂₈-Bongkreic Acid

MF: [¹³C]₂₈H₃₈O₇

FW: 514.4

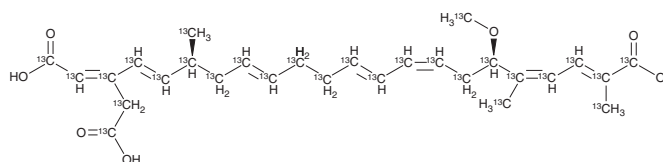
Purity: ≥98%

Supplied as: A 5 µg/ml solution in methanol

Storage: -20°C

Stability: ≥2 years

Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

¹³C₂₈-Bongkreic Acid is intended for use as an internal standard for the quantification of bongkreic acid (Item No. 38230) by GC- or LC-MS. Bongkreic acid is polyketide and bacterial toxin that has been found in *B. gladioli*.^{1,2} It is an inhibitor of ADP/ATP translocase (AAT), a carrier protein that imports ADP into the mitochondrial matrix and exports ATP into the intermembrane space.^{1,3} It prevents ADP import and inhibits mitochondrial respiration ($K_i = 20$ nM in isolated rat liver mitochondria).^{4,5} Bongkreic acid induces cell death in MCF-7 human breast cancer cells deprived of estradiol for six months ($EC_{50} = 2.58$ µM).⁶ It is toxic to mice ($LD_{50s} = 0.68$ - 6.84 mg/kg, p.o.).⁷

References

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3. Lauqin, G.J., Dulpaa, A.M., Klein, G., et al. Isobongkreic acid, a new inhibitor of mitochondrial ADP-ATP transport: Radioactive labeling and chemical and biological properties. *Biochemistry* **15(11)**, 2323-2327 (1976).
4. Kligenberg, M., Grebe, K., and Heldt, H.W. On the inhibition of the adenine nucleotide translocation by bongkreic acid. *Biochem. Biophys. Res. Commun.* **39(3)**, 344-351 (1970).
5. Ruprecht, J.J., King, M.S., Zögg, T., et al. The molecular mechanism of transport by the mitochondrial ADP/ATP carrier. *Cell* **176(3)**, 435-447 (2019).
6. Takeda, S., Okazaki, H., Kudo, T., et al. Bongkreic acid as a warburg effect modulator in long-term estradiol-deprived MCF-7 breast cancer cells. *Anticancer Res.* **36(10)**, 5171-5182 (2016).
7. Hu, W.J., Zhang, G.S., Chu, F.S., et al. Purification and partial characterization of flavotoxin A. *Appl. Environ. Microbiol.* **48(4)**, 690-693 (1984).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM