

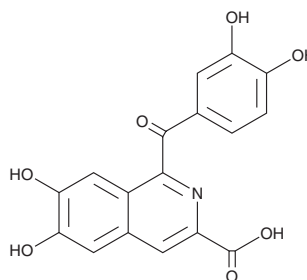
# PRODUCT INFORMATION



**NBI 31772**

Item No. 19122

**CAS Registry No.:** 374620-70-9  
**Formal Name:** 1-(3,4-dihydroxybenzoyl)-6,7-dihydroxy-3-isoquinolinecarboxylic acid  
**MF:** C<sub>17</sub>H<sub>11</sub>NO<sub>7</sub>  
**FW:** 341.3  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 258 nm  
**Supplied as:** A crystalline 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

NBI 31772 is supplied as a crystalline solid. A stock solution may be made by dissolving the NBI 31772 in the solvent of choice, which should be purged with an inert gas. NBI 31772 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NBI 31772 in these solvents is approximately 10, 20, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NBI 31772 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NBI 31772 in PBS (pH 7.2) is approximately 0.14 mg/ml. We do not recommend storing the aqueous solution for more than one day.

## Description

NBI 31772 is a nonpeptide ligand that releases insulin-like growth factor-1 (IGF-1) from its binding protein (IGFBP; K<sub>s</sub> = 1-24 nM for the six human subtypes of IGFBP).<sup>1,2</sup> As the released IGF-1 is biologically active, NBI 31772 is used to assess the role of IGF-1 in cells and animals, including in neuron survival, skeletal muscle regeneration, and glucose homeostasis.<sup>3-5</sup>

## References

1. De Ceuninck, F., Caliez, A., Dassencourt, L., *et al.* Pharmacological disruption of insulin-like growth factor 1 binding to IGF-binding proteins restores anabolic responses in human osteoarthritic chondrocytes. *Arthritis Res. Ther.* **6**(5), R393-R403 (2004).
2. Liu, X.-J., Xie, Q.W., Zhu, Y.-F., *et al.* Identification of a nonpeptide ligand that releases bioactive insulin-like growth factor-I from its binding protein complex. *J. Biol. Chem.* **276**(35), 32419-32422 (2001).
3. Hollis, II, E.R., Lu, P., Blesch, A., *et al.* IGF-I gene delivery promotes corticospinal neuronal survival but not regeneration after adult CNS injury. *Exp. Neurol.* **215**(1), 53-59 (2009).
4. Schertzer, J.D., Gehrig, S.M., Ryall, J.G., *et al.* Modulation of insulin-like growth factor (IGF)-I and IGF-binding protein interactions enhances skeletal muscle regeneration and ameliorates the dystrophic pathology in *mdx* mice. *Am. J. Pathol.* **171**(4), 1180-1188 (2007).
5. Silha, J.V. and Murphy, L.J. The effects of the insulin-like growth factor-I aptamer, NBI-31772, on glucose homeostasis in the mouse. *Can. J. Physiol. Pharmacol.* **83**(7), 557-563 (2005).

### 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.

### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/20/2022

## 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](http://WWW.CAYMANCHEM.COM)