Certificate of Analysis

Product Name: **NF 110** **Catalog No.: 2548** **Batch No.: 4**

CAS Number: 111150-22-2

IUPAC Name: 4,4',4",4"'-[Carbonyl*bis*[imino-5,1,3-benzenetriyl*bis*(carbonylimino)]]tetrakisbenzenesulfonic acid tetrasodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{41}H_{28}N_6Na_4O_{17}S_4$

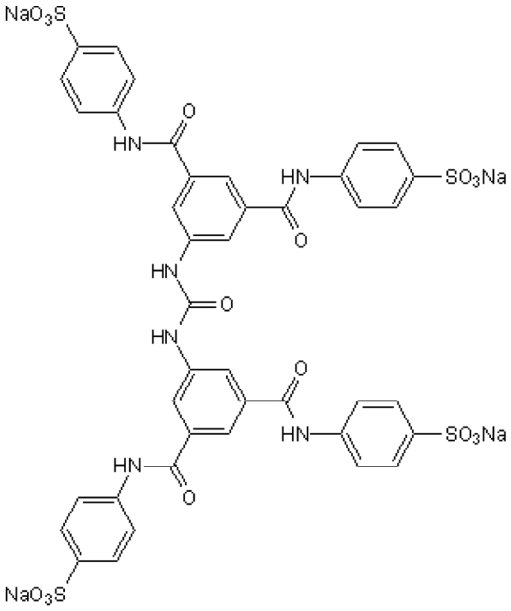
Batch Molecular Weight: 1096.9

Physical Appearance: Off White solid

Solubility: water to 40 mg/ml

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 93.6% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Net Product Content: 84%

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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CAS Number: 111150-22-2

IUPAC Name: 4,4',4",4"'-[Carbonyl*bis*[imino-5,1,3-benzenetriyl*bis*(carbonylimino)]]tetrakisbenzenesulfonic acid tetrasodium salt

Description:

NF 110 is a high affinity $P2X_3$ receptor antagonist (K_i values are 36, 82 and 4144 nM for $P2X_3$, $P2X_1$ and $P2X_2$ recombinant receptors respectively). Shows no activity at $P2Y_1$, $P2Y_2$ and $P2Y_{11}$ receptors (IC_{50} > 10 μM). Potently inhibits α,β-meATP-evoked desensitizing currents in rat DRG neurons (IC_{50} = 527 nM). Shows antitumor activity against several tumor types. Also inhibits DNA-binding activity of HMGA2 (IC_{50} = 0.87 μM). This product is supplied with a high degree of hydration and some residual NaCl, the amount of which are batch dependent. Please refer to the Certificate of Analysis to obtain the batch specific Net Prod... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

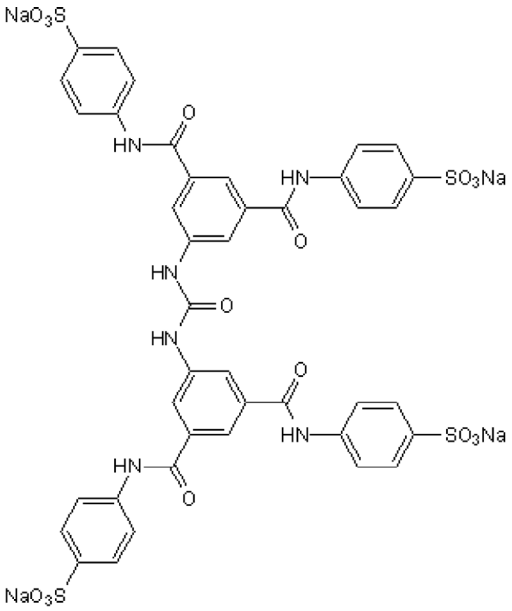
Batch Molecular Formula: $C_{41}H_{28}N_6Na_4O_{17}S_4$

Batch Molecular Weight: 1096.9

Physical Appearance: Off White solid

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 40 mg/ml

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Su *et al* (2020) Identification of HMGA2 inhibitors by AlphaScreen-based ultra-high-throughput screening assays. Sci.Rep. ***10*** 18850. PMID: 33139812.

Hausmann *et al* (2006) The suramin analog 4,4',4",4"'-(Carbonylbis(imino-5,1,3-benzenetriylbis (carbonylimino)))tetra-kis-benzenesulfonic acid (NF110) potently blocks P2X3 receptors: subtype selectivity is determined by location of sulfonic Mol.Pharmacol. ***69*** 2058. PMID: 16551782.

Kassack *et al* (2004) Structure-activity relationships of analogues of NF449 confirm NF449 as the most potent and selective known P2X1 receptor antagonist. Eur. J Med Chem. ***39*** 345. PMID: 15072843.

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
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Europe Middle East Africa
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Tel:+1 612 379 2956