HiDef® N-2 Neural Medium Supplement USER GUIDE

Defined supplement for neural cell culture
Catalog #: LSS-501-1, LSS-501-10

Product Description

Defined Bioscience's HiDef® N-2 is a defined formulation designed for the culture and growth of neurons, neural progenitor cells (NPCs), stem cells, and neuroblastoma (NB) cells, among other cell types, as well as differentiation of embryonic and induced pluripotent stem cells in neural and pancreatic lineages. HiDef N-2 is a combination of insulin (to stimulate glucose uptake), transferrin (to facilitate iron transport), sodium selenite (a potent antioxidant and common medium component), putrescine (for cell growth support), and progesterone (for promoting growth and neuronal differentiation and stimulation). N-2 has been historically shown to improve survival and expression of neuronal cells, including neurons in primary culture, and serves as an effective substitute for the N-1 Bottenstein formulation [1]. HiDef N-2 can be used alone and in combination with other additives and supplements across a wide range of cell culture applications.

HiDef N-2 is provided as a 100x supplement in water, using animal origin-free componentry (contact Defined Bioscience with any complete formulation requests). The supplement is provided in liquid form in 5-mL volumes, sufficient for 500 mL of medium. This supplement can be used with a wide range of basal medium formulations, including Defined Bioscience's fully defined DMEM/F12 basal medium (Catalog # LSB-101).

Each lot of HiDef N-2 is used in combination with basal medium in performance testing evaluating outgrowth in a neural cell line.

Contents and Storage

Content	Catalog #	Amount	Storage	Shelf life
HiDef® N-2 100X Supplement (1 vial)	LSS-501-1	1 x 5 mL	Store at -20°C protected from light	18 months from date of manufacture
HiDef® N-2 100X Supplement (10 vials)	LSS-501-10	10 x 5 mL	Store at -20°C protected from light	18 months from date of manufacture

Product Usage

Sterility: Use appropriate aseptic technique when handling HiDef® N-2. Our HiDef N-2 is sterile-filtered (0.22 µm PES), and so additional sterilization and autoclaving are strongly discouraged. Ensure that all equipment is sterile before use.

Receipt and Preparation: Before using HiDef N-2, ensure that the medium is stored at -20°C and is within the expiration date. Warm the medium to room temperature before use as needed, but avoid warming it above 37°C.

Supplementation: HiDef N-2 is a supplement to be added to a basal medium (e.g. DMEM/F12; Defined Bioscience Catalog # LSB-101). The resulting formulation should be supplemented with other components typically required to support the specific needs of your cells. The recommended concentration of these other components can vary depending on the cell type and application. Consult the literature or manufacturer's recommendations for the appropriate supplements and concentrations for your application.

pH Adjustment: HiDef N-2 is prepared in water. However, the pH of the medium may need to be adjusted depending on the supplements added, the cell type being cultured, and culture conditions. Use a pH meter or pH paper to adjust the pH to the optimal range for your cells using cell culture-grade HCl and/or NaOH as needed.

Cell Culture: HiDef N-2 can be used for the culture of a wide variety of cell types, including primary cells, stem cells, and immortalized cell lines. Follow standard cell culture procedures for seeding, subculturing, and maintaining your cells. Avoid overconfluent cultures or using old medium, as this can lead to cell stress and reduced viability.

For Research Use Only

Storage: HiDef N-2 100X can be stored for up to 18 months after the manufacturing date at -20°C if protected from light. Once opened, use the remaining medium within two weeks if stored at 2-8°C or freeze aliquots at -20°C. Discard any remaining medium, and avoid further freeze-thaw cycles. Do not freeze the diluted medium for later use. Storage conditions must be adjusted based on manufacturer recommendations once modified with supplemental products.

Limited Product Warranty

Defined Bioscience and/or its affiliate(s) warrant their products as set forth in the Defined Bioscience General Terms and Conditions of Sale. If you have questions, please contact Defined Bioscience at info@definedbioscience.com.

References

1. *Cell Culture in the Neurosciences*. Current Topics in Neurobiology (CTNB), ed. B. JE and S. G. 1985: Plenum Press: New York.