Product Information

NCS21 Supplement (50x), Serum-free
Cat. No. C21-H (10 ml)

General Information

NCS21 Supplement is a serum-free supplement for neuronal cell cultures. It is an optimized and modified formulation of B27® Supplement (B27® is a registered trademark of Life Technologies Corporation).

NCS21 Supplement is suitable for the long-term growth and viability of hippocampal and other neurons of the central nervous (CNS) and peripheral nervous system (PNS). It is chemically defined and contains vitamins, hormones and other growth factors including insulin, human transferrin, catalase, antioxidants and fatty acids.

Applications:

- Differentiation of ES cells into neuron lineage (neuron and astrocytes)
- Differentiation of neuronal stem cells into astrocytes and neurons
- Optimal growth and long-term survival of rat hippocampal neurons (fetal and adult)
- Survival of neurons from embryonic rat striatum, substantia nigra, septum and cortex, and neonatal rat cerebellum (fetal and adult)

Features:

- Serum-free composition
- Long-term growth and viability
- Optimized formulation

Product Specifications

Appearance	Clear frozen liquid
Storage and shelf life	Store at ≤-15°C. Avoid repeated freeze-thaw cycles. Preparation of aliquots recommended. Once opened, store at 4° C and use within 2-4 weeks.
Shipping conditions	Frozen (Dry ice)
Thawing	+37°C water bath or overnight at +2°C to +8°C. Swirl gently to homogenize.
Working Concentrations	Recommended final concentration: 1 x

Reference : Chen et al. (2008), J Neurosci Methods; 171 (2): 239–247.

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Formulation

Components	
L-Carnitine	Sodium Selenite
Corticosterone	T3 (Triiodo-L-Thyronine)
Ethanolamine	DL-α-Tocopherol
D(+)-Galactose	DL-α-Tocopherol Acetate
L-Glutathion reduced	
Linoleic Acid	Proteins:
Linolenic Acid	Bovine Serum Albumin
Lipoic Acid	Catalase
Progesterone	Human Recombinant Insulin
Putrescine	Superoxide Dismutase
Retinol	Human Transferrin (holo)
Retinyl Acetate	

Instructions for Use

NCS21 Supplement is a 50-fold concentrate. Dilute NCS21 Supplement into the base medium 1 : 50. The final concentration of NCS21 Supplement corresponds to 1x. For preparation of 100 ml medium add 2 ml NCS21 Supplement into 98 ml of the appropriate base medium.

Cell culture vessels must be coated with Poly-D-Lysine (0.05 mg/ml). If using in combination with N2 Supplement or N2 Supplement Modified add Fibronectin at a final concentration of 5 to 10 µg/ml directly to the medium.

For Cultivation of Fetal Neurons : Add NCS21 Supplement (50x) to base medium (add 0.5 mM L-glutamine) to a final concentration of 1x. For initial plating of embryonic primary hippocampal neurons 25 µM (3.7 µg/ml) glutamate must be added for the first 4 days. After initial plating no glutamate is necessary. Change media every 3 to 4 days.

For Cultivation of Adult and Postnatal Neurons : Add NCS21 Supplement and G5 Supplement to basal media (add 0.5 mM L-glutamine) to obtain a final concentration of 1x.

For Serum-free Growth of Neuroblastomas : Add NCS21 Supplement to basal media (add 0.5 mM L-glutamine and 25 µg (3.7 µg /ml) glutamate) to a final concentration of 1x.

Related Products

Product	Cat. No.
N2 Supplement (100x), Serum-free	N2-K

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Precautions and Disclaimer

This product is for research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Help Needed?

If you have any further questions regarding this product, please do not hesitate to contact our cell culture experts by email (techservice@capricorn-scientific.com) or phone (+49 6424 944640).