

Product Information

NCS21 Supplement (50x), Serum-free
 Cat. No.: K0010-640 Volume: 10 ml

Product Description

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 trade mark 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)

Product Specifications

Sterility	Tested
Storage	≤-15°C

Composition

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

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

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Protocol 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 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 µM (3.7 µg/ml) glutamate) to a final concentration of 1x.

Related Products

Product	Cat. No.
N2 Supplement (100x), Serum-free	K0005-630

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.