



Mesenchymal Stem Cell Adipogenic Differentiation Medium – No Glutamine (MADM-NG)

Catalog #7541-NG

Product Description

Mesenchymal Stem Cell Adipogenic Differentiation Medium – no glutamine (MADM-NG), when used with Mesenchymal Stem Cell Adipogenic Differentiation Supplement (MADS) and FBS is a medium designed for the differentiation of primary mesenchymal stem cells to an adipogenic lineage as assessed by Oil Red O staining *in vitro*. It is a sterile, liquid medium which contains essential and non-essential amino acids, vitamins, organic and inorganic compounds, hormones, growth factors, trace minerals and a low concentration of fetal bovine serum (5%). The medium is HEPES and bicarbonate buffered and has a pH of 7.4 when equilibrated in an incubator with an atmosphere of 5% CO₂/95% air. The medium is formulated (quantitatively and qualitatively) to provide an optimally balanced nutritional environment that selectively supports the differentiation of primary mesenchymal stem cells to an adipogenic lineage as assessed by Oil Red O staining *in vitro*.

MADM-NG does not contain L-glutamine, an essential amino acid that is unstable in solution at 37°C. MADM-NG should be supplemented with L-glutamine (L-Glu; cat #0813) or stable L-glutamine dipeptide, L-alanyl-L-glutamine (LALG, Cat. #0733). The recommended LALG concentration ranges from 2mM to 10mM but may vary with culture conditions.

Components

MADM-NG consists of 500 ml of basal medium, 25 mL of fetal bovine serum (FBS, Cat. #0025), 5 mL of Mesenchymal Stem Cell Adipogenic Supplement (MADS, Cat. #7542) and 5 mL of penicillin/streptomycin solution (P/S, Cat. #0503). *Note: FBS, MADS and P/S are not pre-mixed in MADM-NG; they must be added separately to make the complete MADM-NG.*

NOTE: MADM-NG should be supplemented with L-glutamine prior to use. L-glutamine is not provided with this kit and must be purchased separately.

Product Use

MADM-NG is for research use only. It is not approved for human or animal use, or for application in *in vitro* diagnostic procedures.

Storage

Store the basal medium at 4°C and the MADS, FBS and P/S solution at -20°C. Protect from light.

Shipping

Basal medium: room temperature. Supplements: dry ice.

Instructions for Use

Thaw MADS, FBS and P/S solution at 37°C. Gently tilt the tubes several times to ensure the contents are completely mixed before adding to the medium. Spray the medium bottle and tubes

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with 70% ethanol, and wipe to remove excess liquid. In a sterile field, remove the caps without touching the interior threads with fingers. Add MADS, FBS and P/S solution to the medium and mix well. Since several components are light-labile, the medium should not be exposed to light for extended periods. We do not recommend warming medium in a 37°C water bath prior to use. When stored in the dark at 4°C, the reconstituted medium is stable for one month.

Caution: If handled improperly, some components of the medium may present a health hazard. Take appropriate precautions when handling it, including the wearing of protective clothing and eyewear. Dispose of properly.