

Oroboros MiR05-Kit instruction sheet

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Updates: wiki.orooboros.at/index.php/MiR05-Kit



Mitochondrial respiration medium: MiR05-Kit

MiR05-Kit Mitochondrial respiration medium



Product ID: 60101-01
Lot # 0915
Solid crystalline powder
Storage: room temperature
Expiry date:
wiki.orooboros.at/index.php/MiR05-Kit

For use in R&D only.
Not intended for direct use
on humans or animals.

Mixture not classified as hazardous;
see regulation (EC) No 1272/2008.

For a final volume of 250 ml MiR05.
Preparation and further information:
wiki.orooboros.at/index.php/MiR05-Kit

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1. Composition

1.1. MiR05-Kit

MiR05-Kit [1 vial]	Formula weight [g/mol]	Amount for 250 mL final volume [g]	Final concentration [mM]
EGTA	380.4	0.05	0.5
MgCl ₂ ·6H ₂ O	203.3	0.155	3
Lactobionic acid	358.3 free acid	5.375	60
Taurine	125.1	0.625	20
KH ₂ PO ₄	136.1	0.34	10
HEPES	238.3	1.19	20
D-Sucrose	342.3	9.41	110

1.2. BSA to be added at preparation

Substance	Final conc.	Addition to 250 mL final volume [g]	Source; storage temp.	Comment
BSA, fatty acid free	1 g/l	0.25	Sigma A 6003 fraction V (25 g); 4 °C	Not provided in the MiR05- Kit

2. Qualified personnel

The MiR05-Kit is a carefully mixed powder of solid chemicals. The powder is not to be partitioned by the user.

The mixture is not classified as hazardous. Nevertheless, the MiR05-Kit can be hazardous to untrained persons if handled inappropriately and not in accordance with the regulations of the preparation instructions. This instruction sheet provides precise safety indications to avoid hazards to all persons using the MiR05-Kit.

The preparation of the MiR05 medium described in this document may be performed only by personnel qualified for the specific task, such as technicians, scientists or trained students.

3. Preparation of a final volume of 250 mL MiR05

- Transfer the MiR05-Kit powder of one vial quantitatively into a glass beaker.
- Add 230 mL H₂O.
- Dissolve with magnetic stirring at 30 °C.
- Add 3.75 mL of 5 M KOH at 30 °C and stir for 90 min.
- Adjust to pH 7.1 with 5 M KOH at 30 °C using a pH electrode. Do not use pH paper. The pH adjustment may be slow (90 min). pH has to be stable for at least 5 min. Do not leave the pH electrode in the solution during the 90 min waiting time.
- Separate approx. 50 mL of this prepared solution into a glass beaker and dissolve 0.25 g BSA (essentially fatty acid free) completely.
- Add the dissolved BSA to the main solution. Check pH again and re-adjust to 7.1 at 30 °C if necessary.
- Add H₂O to a final volume of 250 mL to complete the preparation of the medium.
- Partition the MiR05 medium in appropriate aliquots in plastic vials (e.g. 40 mL each) and store at -20 °C.

4. Storage information

- Aliquoted portions of prepared MiR05-Kit can be stored at -20 °C for several months.
- Updated information on storage limitations will be provided on the website according to quality control in the Oroboros MitoFit research laboratory.

5. Supplementary and ordering information

» <http://wiki.oroboros.at/index.php/MiR05-Kit>

Gnaiger E, Kuznetsov AV, Schneeberger S, Seiler R, Brandacher G, Steurer W, Margreiter R (2000) Mitochondria in the cold. In: Life in the Cold (Heldmaier G, Klingenspor M, eds) Springer, Heidelberg, Berlin, New York:431-42.