RPMI Medium 1640 (Glutamax, HEPES 25mM)
For research use only

Catalogue number: BI-1007

Product Description

Roswell Park Memorial Institute (RPMI) 1640 Medium was originally developed to culture human leukemic cells in suspension and as a monolayer. RPMI 1640 Medium has since been found suitable for a variety of mammalian cells, including HeLa, Jurkat, MCF-7, PC12, PBMC, astrocytes, and carcinomas. RPMI 1640 Medium is a unique medium, because it contains glutathione as the reducing agent and also high concentrations of vitamins. RPMI 1640 Medium contains biotin, vitamin B12, and para-aminobenzoic acid, which are not found in Eagle's Minimal Essential Medium or Dulbecco's Modified Eagle Medium. In addition, inositol and choline are present at very high concentrations. RPMI 1640 Medium contains no proteins, lipids, or growth factors. Therefore, RPMI 1640 Medium requires a supplementation, commonly 10% Fetal Bovine Serum (FBS). RPMI 1640 Medium uses a sodium bicarbonate buffer system (2.0 g/L), and therefore requires a 5–10% CO_2 environment to maintain physiological pH. Specifically, this product (BI-1008) contains Glutamax/L-Glutamine, HEPES (25 mM), sodium bicarbonate, and Phenol Red. HEPES (4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid), a zwitterionic organic chemical buffering agent is used for better maintaining the physiological pH changes in carbon dioxide concentrations.

Notes

- Respect storage conditions of the product.
- Do not use the product after the expiry date.
- Protect the product from light.
- Manipulate the product in aseptic conditions (e.g. under laminar air flow).
- Wear clothes adapted to the manipulation of the product to avoid contamination (e.g. gloves, mask, and hygiene cap).
- Supplements, such as antibiotics, should be added aseptically to the medium. Storage conditions and shelf-life of the supplemented product would be affected by the nature of the Supplements.
- The medium should be clearand free of particulate and flocculent material. Do not use, if the medium is cloudy or contains a precipitate.
- In the case of using the medium in several steps, notice that after the first discharge, the air-to-medium ratio will increase inside. So, the medium will become alkaline earlier than expected. It's recommended to fill the remaining medium in 50ml sterile tubes, close tightly and use until the expiry date.
- Users are advised to review the literature for recommendations regarding medium supplementations and physiological growth requirements specific for different cell lines.
- For research use only.

Quality Control

- **Appearance:** Rosy, clear solution
- **pH:** 7.40 -7.60
- **Sterility:** tested
- **Storage:** 2-8° C; Protect from light
- **Shelf life:** 6 months

References:

1. RPMI-1640 was developed by Moore et. al. at Roswell Park Memorial Institute, hence the acronym RPMI. The formulation is based on the RPMI-1630 series of media utilizing a bicarbonate buffering system.

Citations

1. Dianat, S., et al. "ctDNA binding affinity and in vitro antitumor activity of three Keggin type polyoxotungestates." Journal of Photochemistry and Photobiology B: Biology 124 (2013): 27-33.
2. Mahmoudabadi, Ali Zarei, Majid Zarrin, and Neda Kiasat. "Biofilm formation and susceptibility to amphotericin B and fluconazole in Candida albicans."Jundishapur journal of microbiology 7.7 (2014).
3. Dianat, S., et al. "In vitro antitumor activity of parent and nano-encapsulated mono cobalt-substituted Keggin polyoxotung state and its ctDNA binding properties." Chemico-biological interactions 215 (2014): 25-32.
4. Shamsdin, Seyedeh Azra, et al. "Alterations in Th17 and the Respective Cytokine Levels in Helicobacter pylori-Induced Stomach Diseases. "Helicobacter 20.6 (2015): 460-475.
5. Dianat, S., et al. "ctDNA interaction of Co-containing Keggin polyoxomolybdate and in vitro antitumor activity of free and its nano-encapsulated derivatives." Journal of the Iranian Chemical Society (2016): 1-10.
6. Dianat, Somayeh, et al. "In vitro antitumor activity of free and nano-encapsulated Na 5 [PMo 10 V 2 O 40]• nH 2 O and its binding properties with ctDNA by using combined spectroscopic methods." Journal of Inorganic Biochemistry 152 (2015): 74-81.