MSQ43, *Anopheles stephensi* Cell Line

Catalog No. MRA-858

For research use only. Not for use in humans.

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Manufacturer:
BEI Resources

Product Description:
MSQ43 is an immortalized cell line derived from the larval tissue of the mosquito *Anopheles stephensi*, Indian wildtype strain.[1]

Material Provided:
Each vial contains approximately 0.5 mL of MSQ43 cells in complete culture medium (CCM) supplemented with 10% fetal bovine serum (FBS) and 10% dimethylsulfoxide (DMSO). Please see Appendix I for media preparation. Sufficient cells are provided to initiate at least one new culture. The cell count, expressed as cells per vial, is shown on individual certificates of analysis for each product lot.

Packaging/Storage:
This product was packaged aseptically in cryovials. It should be stored at -100°C or colder, preferably in the vapor phase of a liquid nitrogen freezer. Storage at -70°C will result in loss of viability. To ensure the highest level of viability, the vial should be thawed and the culture initiated as soon as possible upon receipt. Any warming of the product during shipping and transfer must be avoided, as this will adversely affect the viability of the product after thawing. For transfer between freezers and shipping, the cells may be placed on dry ice for brief periods, although use of a portable liquid nitrogen carrier is preferred. Please read the following recommendations prior to reconstituting this material.

Safety Precautions:
When handling frozen vials, it is highly recommended that protective gloves, lab coat and full-face mask be worn. Even brief exposure to the ultra-cold temperature can cause tissue damage from frostbite. Also, some vials may slowly fill with liquid nitrogen if they have been immersed during cryogenic storage. When thawing, the liquid nitrogen may rapidly expand as it changes to gas, breaking the vial or cap with explosive force, sending debris flying with enough velocity to cause injury. Store and use in areas with adequate ventilation.

Growth Conditions:
Prior to thawing the cells, prepare complete culture medium (CCM) according to Appendix I. Thaw one vial of cells in a 28.0°C water bath and transfer the content to a T25 or larger filter-capped or loose capped cell culture flask with CCM. Incubate at 28.0°C with 5% CO_2. Harvest with cell scrapper; split 1:3 to 1:5 when confluent; slow doubling time may be experienced in suboptimal conditions (72h); investigator reports 20h doubling time. Cells grow best when seeded and maintained at high density and split at near confluence. Reseed at ~30% confluence.

Cells are adherent but may be detached and passaged by vigorous pipetting or cell scraping with a cell harvester/rubber policeman. Trypsin treatment not required and not desirable. If chemical disruption is preferred, trypsin substitutes may be less damaging to cells.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: MSQ43, *Anopheles stephensi* Cell Line, MRA-858, contributed by Shirley Luckhart and Imogene Schneider."

Biosafety Level: 1
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories (BMBL). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

Disclaimers:
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MRA-858 is claimed in U.S. Patent Number 7,015,036 and the continuations, continuations-in-part, re-issues and foreign counterparts thereof. Any commercial use will require specific written permission from the contributor's institution.

References:

1. Schneider, I. "Establishment of Three Diploid Cell Lines of *Anopheles stephensi* (Diptera: Culicidae)." J. Cell Biol. 42 (1969): 603-606. PubMed: 5792344.

APPENDIX I: MEDIA PREPARATION

MSQ43 Complete Culture Medium (CCM; 500 mL)

Modified Eagle's Medium (MEM) with Earle's salts	440.00 mL
L-glutamine (200 mM stock; 4 mM final)*	10 mL
Glucose (10%, sterile)	5 mL
Vitamin solution (100x)	5 mL
NEAA (Non-Essential Amino Acids)	10 mL
Penicillin/Streptomycin (100x)	5 mL
FBS, heat inactivated (5% final)	25 mL

*Other MEM with Earle's base formulations containing L-glutamine may be adjusted accordingly to 4mM L-glutamine.

Freezing Medium
MSQ43 CCM
10% FBS
10% DMSO

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