Aedes aegypti, Strain D2MEB, Eggs

Catalog No. NR-45837

For research use only. Not for human use.

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Manufacturer:
Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA

Product Description:
Classification: *Culicidae*, *Aedes*
Species: *Aedes aegypti* (common name: yellow fever mosquito)
Strain: D2MEB (Dengue 2 Midgut Escape Barrier)
Original Source: *Aedes aegypti* (*A. aegypti*), strain D2MEB is a parental line D2S3 progeny derived from *A. aegypti*, strain PR (San Juan, Puerto Rico) crossed with *A. aegypti* subsp. *formosus*, strain Ibo (Ibo village, Nigeria) and screened for susceptibility to disseminated dengue virus type 2 (DEN-2) infection. D2S3 was crossed with *A. aegypti*, strain Houston (Texas) and D2MEB progeny were selected for resistance to disseminated DEN-2 infection.[1,2]
Genotype: *A. aegypti*, strain D2S3 is a progeny of wild-type crosses.[1]
Phenotype: *A. aegypti*, strain D2S3 has a midgut escape barrier to DEN-2; resistant to infection.[1-3]
Transmission Competent Pathogens: DEN-2 and yellow fever virus
Comment: *A. aegypti*, strain D2MEB is used in vector competency studies for DEN-2.[3]

Material Provided:
NR-45837 contains a suitable number of live eggs to establish a stock. Eggs are provided on damp filter paper and should be hatched immediately upon receipt.

Packaging/Storage:
NR-45837 is prepared and shipped by CDC. The product is provided at room temperature.

Growth Conditions[1-3]:
A. aegypti, strain D2MEB mosquitoes should be maintained in an insectary at approximately 27°C and 82% relative humidity under a 14-hour light:10-hour dark cycle (lights on at 8 a.m.). Eggs should be maintained at 27°C and 77%-82% relative humidity and hatched in deoxygenated, deionized water containing powdered Tetramin tropical fish food (Tetra, Melle, Germany). Larvae should be cultured in deionized water and fed Tetramin tablets. Adults are blood fed with citrated sheep's blood or fed on mice to induce egg production. For vector competency/infectivity studies with DEN-2, blood feed with DEN-2 grown in cell culture.

Citation:
Acknowledgment for publications should read "The following reagent was provided by Centers for Disease Control and Prevention for distribution by BEI Resources, NIAID, NIH: *Aedes aegypti*, Strain D2MEB, Eggs, NR-45837."

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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Bennett, K. E., B. J. Beaty, and W. C. Black IV. "Selection of D2S3, an *Aedes aegypti* (Diptera: Culicidae) Strain with High Oral Susceptibility to Dengue 2 Virus and D2MEB, a Strain with a Midgut Barrier to Dengue 2 Escape." J. Med. Entomol. 42 (2005): 110-119. PubMed: 15799518.
2. Bennett, K. E., et al. "Quantitative Trait Loci That Control Dengue-2 Virus Dissemination in the Mosquito *Aedes aegypti*." Genetics 170 (2005): 185-194. PubMed: 15781707.
3. Black IV, W. C., Personal Communication.

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