

Product Information Sheet for MRA-1301

Anopheles coluzzii, Strain QUAS-CD8:GFP, Eggs

Catalog No. MRA-1301

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Contributor:

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Manufacturer:

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

Product Description:

Classification: Culicidae, *Anopheles*

Species: *Anopheles coluzzii* (formerly, *Anopheles gambiae* M form)¹

Strain: QUAS-CD8:GFP

Original Source: The *Anopheles coluzzii* (*An. coluzzii*) colony originated in Ngousso, Cameroon.²

Comments: *An. coluzzii*, strain QUAS-CD8:GFP is a new transgenic strain utilizing the binary expression system QF-QUAS (Q-system).^{2,4} The strain was produced using a piggyBac vector containing cyan fluorescent protein (CFP) under control of the synthetic eye promoter 3xP3. QUAS is an enhancer element for the transcriptional activator QF2, originally from *Neurospora crassa* (fungus). Strain QUAS-CD8:GFP is an effector construct that contains 15 copies of the QUAS sequence, enhancing expression of even weak promoters, as well as mouse CD8, a single-pass membrane protein, fused to green fluorescent protein (GFP) to allow membrane-targeted visualization. This transgenic line can be used in combination with promoter-QF2 driver constructs to express CD8:GFP in specific tissues.

Note: MRA-1301 is a Q-system effector line, and must be crossed with a Q-system driver line for tissue-specific gene expression. MRA-1301 can be crossed with MRA-1300.

Material Provided:

MRA-1301 contains a suitable number of eggs to establish a stock. Eggs are provided on damp filter paper and should be hatched immediately upon receipt.

Packaging/Storage:

MRA-1301 is prepared and shipped by CDC. The product is provided at room temperature and should be kept at 24°C to 30°C and 50% to 80% relative humidity until hatched.²

Growth Conditions:

Standard *An. coluzzii* rearing methods are recommended.^{2,5} Mosquitoes should be reared in a pathogen-free insectary with 10% sucrose available, and allowed to feed on a live animal (mouse) to propagate the strain.²

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Anopheles coluzzii*, Strain QUAS-CD8:GFP, Eggs, MRA-1301, contributed by Christopher J. Potter."

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. Coetzee, M., et al. "*Anopheles coluzzii* and *Anopheles amharicus*, New Members of the *Anopheles gambiae* complex." Zootaxa 3619 (2013): 246-274. PubMed: 26131476.
2. Potter, C. J., Personal Communication.

3. Riabinina, O., et al. "Organization of Olfactory Centres in the Malaria Mosquito *Anopheles gambiae*." Nat. Commun. 7 (2016): 13010. PubMed: 27694947.
4. Riabinina, O., et al. "Improved and Expanded Q-System Reagents for Genetic Manipulations." Nat. Methods (2015): 219-222. PubMed: 25581800.
5. [Methods in Anopheles Research](#)

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