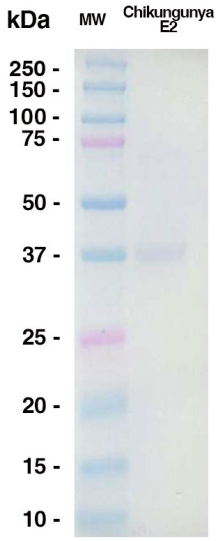
Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Chikungunya E2 Protein

Purified *in vivo* GOLD™ Functional Grade

Hybridoma Monoclonal Antibody



Product Information

Product No.:	C450
Clone:	CHK-152
Isotype:	Mouse IgG2a k
Storage:	Sterile 2-8°C

Product Description

Specificity:
Clone CHK152 binds to and shows mechanisms of neutralizing[1] of the Chikungunya E2 protein.

Antigen Distribution:
The E2 Envelope protein is expressed on the surface of the Chikungunya Virus

Background:
Chikungunya virus (CHIKV) is a mosquito-transmitted alphavirus that causes epidemics globally and has been declared a notable disease by the CDC [1,2] . Symptoms include high fever, myalgia, rash, and severe polyarthritis which can persist for long after acute infection. CHIKV is an enveloped virus with an 11.8-kb single-stranded, positive-sense RNA genome with two open reading frames [3,4]. There are three main genotypes, having 95.2 to 99.8% amino acid identity: Asian, West African, and East/Central/South African (ECSA). The mature CHIKV virion is comprised of a nucleocapsid protein C and two glycoproteins, E1 and E2 [5]. E1 participates in virus fusion. E2 functions in attachment to cells. E1 and E2 form 80 trimeric spikes on the virus surface [6].

Co-circulation of CHIKV with other arboviruses, such as dengue, Zika, Mayaro, and yellow fever, occurs in many countries, posing significant difficulties for diagnosis [2]. Monoclonal antibodies (MAb) can be used both for diagnosis [7] and as a therapeutic agent [5,8,9]. CHIKV can be rapidly detected by an immunochromatographic assay using MAbs against the CHIKV envelope protein [7]. Additionally, MAb CHK-152 has been successfully used as a therapeutic agent in mouse [5] and macaque [9]. CHK-152 activity is directed against the A domain of CHIKV E2 [5] and likely neutralizes infectivity by inhibiting fusion [10].

MAb CHK-152 protects immunocompromised mice and macaque against CHIKV-induced mortality and disease, inhibiting all three CHIKV genotypes [5, 9]. Viral loads are markedly reduced in serum, spleen, liver, muscle, and brain relative to controls and joint tissue appears normal [5, 8]. Combination MAb therapy (CHK-102+CHK-152 or CHK-166+CHK-152), avoids the emergence of viral resistance (dominant single-mutation escape) in both mouse [5] and macaque models 9 and the treatment window is extended [5] . When humanized, hu-CHK-152 neutralizing activity and affinity for pE2-E1 are similar to mouse CHK-152 [5].

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Known Reactivity Species:
Mouse

Format:
in vivo GOLD™, Purified in vivo Functional Grade

Immunogen:
Chikungunya E2 protein

Formulation
This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin
<1.0 EU/µg as determined by the LAL method

Storage and Stability
This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation
Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.
Other Applications Reported in Literature:

NELISA

Country of Origin
USA

References
1. Petersen, L. R., & Epstein, J. S. (2014). Transfusion, 54(8), 1911–1915.
2. Silva, JVJ Jr., Ludwig-Begall, LF., Oliveira-Filho, EF. et al. (2018) Acta Trop. 188:213-224.
3. Powers, AM., Brault, AC., Tesh, RB. et al. (2000) J. Gen. Virol. 81:471–479.
4. Arankalle, VA., Shrivastava, S., Cherian, S. et al. (2007) J. Gen. Virol. 88:1967–1976.
5. Pal, P., Dowd, KA., Brien, JD. et al. (2013)PLoS Pathog. 9(4):e1003312.
6. Mukhopadhyay, S., Zhang, W., Gabler, S. et al. (2006) Structure. 14(1):63-73.
7. Okabayashi, T., Sasaki, T., Masrinoul, P. et al. (2015) J Clin Microbiol. 53(2):382-388.
8. Hawman, DW., Stoermer, KA., Montgomery, SA. et al. (2013) J Virol. 87(24):13878-13888.
9. Pal, P, Fox, JM., Hawman, DW. et al. (2014) J Virol. 88(15):8213-8226.
10. Sun, S., Xiang, Y., Akahata, W. et al. (2013) Elife. 2:e00435.

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