Product Data Sheet

anti-human CD81 monoclonal antibody

Product information

Catalog Number:	GM-1113
Clone:	QV-6A8-S3
Description:	purified monoclonal rat antibody
Specificity:	anti-human CD81 (TAPA-1)
Isotype:	IgG2b
Purification:	Protein G
Storage:	short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing)
Buffer:	phosphate buffered saline, pH 7.2
Immunogen:	genetic immunisation with cDNA encoding human CD81
Selection:	based on recognition of the complete **native protein** expressed on transfected mammalian cells

Working dilutions

Flow cytometry:	1.2 µg/10^6 cells
ELISA:	1:200 - 1:400
CELISA:	1:200 - 1:400

For each application a titration should be performed to determine the optimal concentration.

Specificity testing by flow cytometry

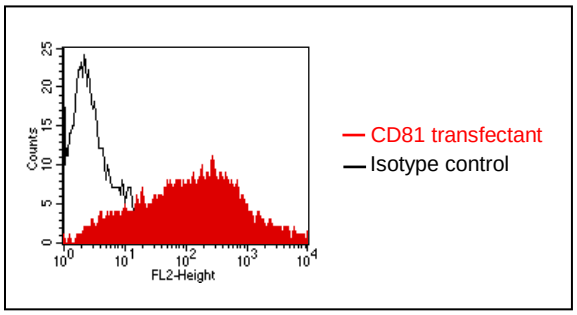

Fig.1: FACS analysis of Dubca cells using QV-6A8-S3 Cat. # GM-1113. Dubca cells were transiently transfected with an expression vector encoding CD81 (red curve). Binding of QV-6A8-S3 was detected with a PE-conjugated secondary antibody. (Isotype control: black curve).

Aldevron Freiburg GmbH
Waltershofener Str. 17
79111 Freiburg, Germany

antibody@aldevron.com
www.aldevron.com

SDS-PAGE analysis of QV-6A8-S3

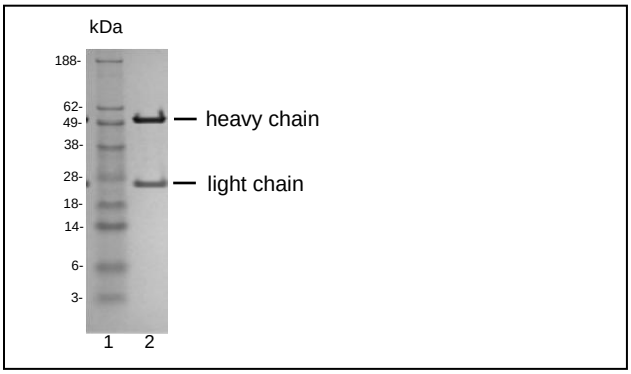

Fig.3: SDS-PAGE analysis of purified QV-6A8-S3 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified QV-6A8-S3 antibody. Proteins were separated by SDS-PAGE and stained with RAPID *Stain*™ Reagent.

Background

CD81 (TAPA-1) belongs to the transmembrane 4 superfamily (tetraspanin family). CD81 is a widely expressed cell-surface protein that is characterized by the presence of four transmembranic domains, short N and C termini, a small extracellular loop (SEL) and a large extra-cellular loop (LEL) (1). It is expressed on cells of hematopoietic, neuroectodermal and mesenchymal origin and plays a role in the regulation of cell development, cell-growth and signal transduction. CD81 plays a critical role in Hepatitis C Infection and is involved in HCV entry due to its ability to interact with virus' E1/E2 glycoproteins (2,3). CD81 is an essential HCV host factor as silencing of CD81 expression by CD81-specific monoclonal antibodies in hepatoma cells inhibits HCV entry (4).

References

1. **Levy S, Todd SC and Maecker HT (1998).** CD81 (TAPA-1): a molecule involved in signal transduction and cell adhesion in the immune system. *Annu Rev Immunol* 16:89-109.

2. **Pileri P, Uematsu Y, Campagnoli S, Galli G, Falugi F, Petracca R, Weiner AJ, Houghton M, Rosa D, Grandi G and Abrignana S (1998).** Binding of Hepatitis C Virus to CD81. *Science* 282 no. 5390 pp. 938-941

3. **Flint M, von Hahn T, Zhang J, Farquhar M, Jones CT, Balfe P, Rice CM and McKeating JA (2006).** Diverse CD81 Proteins Support Hepatitis C Virus Infection. *Journal of Virology* p.11331-11342

4. **Fofana I, Xiao F, Thumann C, Turek M, Zona L, Tawar RG, Grunert F, Thompson J, Zeisel MB, Baumert TF (2013).** A Novel Monoclonal Anti-CD81 Antibody Produced by Genetic Immunization Efficiently Inhibits Hepatitis C Virus Cell-Cell Transmission. *PLoS One* 21;8(5):e64221