

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	C1q, Mouse, clone 7H8	Expiry date	-
Catalog number	HM1044-20UG	Amount	20 µg
Lot number	-	Concentration	100 µg/ml
Volume	200 µl	Conjugate	None
Formulation	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	Purification	Protein G
Host Species	Rat IgG1		
Endotoxin	N.A.		
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #	1,4		2,3,6			5,7		
Yes	•		•			•		
No		•						•
N.D.				•	•		•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



IHC-F: Positive staining for endothelial blood vessels. HM1044 was used 500x diluted.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- IHC-F: 4% PFA fixed and sucrose infiltrated frozen tissue. 18h 4°C, 0.133 µg/ml 7H8
- IA: Antibody 7H8 can be used as capture and detection antibody. To detect bound C1q, 1/100 diluted 7H8 was used.
- Positive control: Macrophages, follicular dendritic cells, spleen, kidney

General Information
Description

The monoclonal antibody 7H8 recognizes mouse C1q. C1q, a member of the 'defense collagen' family, is the first subcomponent of the C1 complex of the classical pathway of complement activation. Several functions have been assigned to the pattern recognition molecule C1q, which include antibody-dependent and independent immune functions like triggering of rapid enhanced phagocytosis resulting in efficient containment of pathogens or clearance of cellular debris, apoptotic cells and immune complexes, and is considered to be mediated by C1q receptors present on the effector cell surface. There remains some uncertainty about the identities of the receptors that mediate C1q functions. Some of the previously described C1q receptor molecules, such as gC1qR and cC1qR, now appear to have less of a role in C1q functions than in functions unrelated to C1q. Experiments with gene targeted homozygous C1q-deficient mice have suggested a role for C1q in modulation of the humoral immune response, and also in protection against development of autoimmunity.

The first component of complement C1 is a complex of three glycoproteins - C1q, C1r, and C1s. C1s and C1r interact to form a C1z-dependent tetrameric proenzyme complex, C1r₂-C1s₂, which makes contacts with the C1q collagen domain. Binding of C1q to immune complexes (IgG or IgM) via the gC1q domain, is considered to induce a conformational change in the collagen region of C1q, which leads to the autoactivation of C1r which, in turn, activates C1s. The activated C1 complex then cleaves components C4 and C2 in the classical complement cascade.

Immunogen

Antibody- and C1q-coated thymocytes

References

1. Zachrau, B et al; Antigen localization within the splenic marginal zone restores humoral immune response and IgG class switch in complement C4-deficient mice. *Int Immunol* 2004, *16*: 1685
2. Kang, Y et al; A Dominant Complement Fixation Pathway for Pneumococcal Polysaccharides Initiated by SIGN-R1 Interacting with C1q. *Cell* 2006, *125*: 47
3. Abbitt, K et al; Antibody ligation of murine Ly-6G induces neutropenia, blood flow cessation, and death via complement-dependent and independent mechanisms. *J Leukoc Biol* 2009, *85*: 55
4. Ankeny, D et al; B cells produce pathogenic antibodies and impair recovery after spinal cord injury in mice. *J Clin Invest* 2009, *119*: 2990
5. Suresh, M et al; Role of the property of C-Reactive Protein to activate the classical pathway of complement in protecting mice from pneumococcal infection. *J Immunol* 2006, *176*: 4369
6. Agostinis, C et al; In vivo distribution of 2 glycoprotein I under various pathophysiologic conditions. *Blood* 2011, *118*:4231
7. Kiriakidis, S et al; Complement C1q is hydroxylated by collagen prolyl 4 hydroxylase and is sensitive to off-target inhibition by prolyl hydroxylase domain inhibitors that stabilize hypoxia-inducible factor. *Kidney Int* 2017, *92*:900

Storage&stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC
Brenda Teunissen

Date
19/10/2020

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.