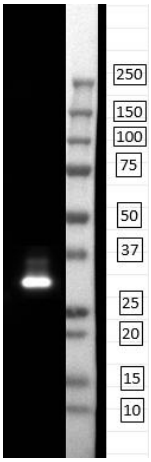
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	C3d, Human, clone HB2C2		
Catalog number	HM2422-20UG		
Lot number	xxxxxXxxxx	**Expiry date**	MMM YYYY
Volume	200 µl	**Amount**	20 ug
Formulation	0.2 µm filtered in PBS+0.02%NaN3+0.1%BSA	**Concentration**	100 ug/ml
Host Species	Mouse IgG1	**Conjugate**	N.A
Endotoxin	N.A	**Purification**	Protein G
Storage	4°C		

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
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



W: Western blot analysis performed with human C3d protein with antibody clone 3 (HM2422) at 2 µg/ml.

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.

- W: A non-reduced sample treatment and SDS-Page was used. The band size is ~34 kDa

General Information

Description

Antibody clone #HB2C2 recognizes a neo-epitope of complement C3dg. The antibody does not recognize C3 or (i)C3b The complement system plays important roles in both innate and adaptive immune response and can produce an inflammatory and protective reaction to challenges from pathogens before an adaptive response can occur. It consists of a complex family of proteins and receptors which are found in the circulation, in tissues and other body-fluids. There are three pathways of complement activation. The classical pathway is initiated by Immune complexes; the lectin pathway by surface bound lectins; and the AP by all the surfaces that are not specifically protected against it. Each generates a C3 convertase, a serine protease that cleaves the central complement protein C3, and generates the major cleavage fragment C3b. The C3 and C5 convertases are enzymatic complexes that initiate and amplify the activity of the complement pathways and ultimately generate the cytolytic MAC. The synthesis of C3 is tissue-specific and is modulated in response to a variety of stimulatory agents. After cleavage by C3 convertase the anaphylotoxin C3a and activating C3b are formed. When bound to the cell surface C3b forms the start of the terminal pathway of complement by initiating

the formation of the C5 convertase. Further cleavage of C3b by trypsinlike enzymes lead to formation of iC3b and subsequently C3c and C3dg. The latter digested to leave C3d. The formation of C3dg into C3d in blood is a slow step. As a result the majority will be C3dg.C3 has a molecular weight of app. 185kDa and is the most abundant protein of the complement system with serum protein levels of about 1.3 mg/ml. C3dg is a non-glycosylated single chain protein of 38.9 KDa. Most assays cannot distinguish between the different C3 proteins.
C3 activation products are involved in a number of diseases like transplantation rejection, kidney diseases, AMD and inflammatory diseases. Surface bound C3 proteins also have role, eg via complement receptor2 (CR2), in regulating the adaptive immune response. Therefor complement fragments serve as biomarkers for many of these diseases. The binding of C3dg to the cell membrane is rather unstable, leading to release of the protein. As end product of C3 activation, this makes it an attractive diagnostic biomarker. Instead of C3 &C4 it reflects more ongoing complement activation. Most antibodies, although recognizing an epitope on the C3d part of the alpha chain, do not differentiate between the native and activated C3 proteins.

References

1. Rasmussen, K et al; A novel antihuman C3d monoclonal antibody with specificity to the C3d complement split product. J Immunol Meth. 2017, 444:51-55, PMID: 28174050
2. Thurman, J et al; Detection of complement activation using monoclonal antibodies against C3d. J Clin Invest. 2013, 123(5): 2218–2230, PMID: 23619360
3. troldborg_A_2020 C3dg ELISA The c3dg Fragment of complement is superior to conventional c3 as a Diagnostic Biomarker in systemic lupus erythematosus, Front Immunol. 2018; 9: 581, PMID: 29632534

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

Date

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