

**MONOCLONAL ANTIBODY TO  
HUMAN C4d  
clone 7H4**



<b>Catalog nr</b>	HM2230 (lot number and expiry date are indicated on the label)
<b>Description</b>	<p>The monoclonal antibody 7H4 (also known as clone M4d2) recognizes an epitope on the alpha 2 chain of human C4d. Complement factor C4 (MW 41 kDa), formerly known as Gg protein, consists of an alpha-, beta- and gamma-chain. The classical pathway of complement and the mannose binding lectin (MBL) activation pathway converge at C4. Activated C1, MASP-1 and MASP-2 cleave C4 resulting in the formation of C4a and C4b. The latter can be cleaved by factor I resulting in C4c and C4d, in which step all functional sites are lost.</p> <p>The C4d activation fragment of C4 is an excellent marker for classical complement pathway and MBL pathway activation. The thioester formed between the side chains of Cys1010 and Gln1013 within the C4d region of the <math>\alpha</math>-chain mediates covalent attachment to the target surface bearing activated forms of C1s or MASP.</p> <p>Furthermore, C4d is highly homologous to C3d with over 35% shared amino acid sequence. In a number of diseases such as rheumatoid arthritis (RA), hereditary angioedema (HAE), systemic lupus erythematosus (SLE) and chronic urticaria with hypercomplementemia levels of C4d are significantly elevated in serum or plasma. C4d levels may also be elevated in plasma from patients with a variety of humoral autoimmune diseases in which complement activation is known to occur. Deposition of C4d in peritubular capillaries has been shown to be a sensitive marker for antibody-mediated (humoral) rejection in renal transplant biopsies.</p> <p>The monoclonal antibody 7H4 recognizes C4, C4b and C4d. Antibody 7H4 cross reacts with guinea pig.</p>
<b>Species</b>	Mouse IgG <sub>1</sub>
<b>Formulation</b>	1 ml (100 $\mu$ g/ml) 0.2 $\mu$ m filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.
<b>Application</b>	The monoclonal antibody 7H4 can be used for immunohistology on frozen sections and Western blotting. Furthermore, the monoclonal antibody 7H4 is useful for immuno assays.
<b>Use</b>	For immunohistology and Western blotting 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.
<b>Storage and stability</b>	Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.
<b>Precautions</b>	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.
<b>References</b>	<ol style="list-style-type: none"><li>1. Zwirner, J et al; Deposition of complement activation products on plastic-adsorbed immunoglobulins. <i>J Immunol Methods</i> 1989, 124: 121.</li><li>2. Zwirner, J et al; Classical pathway of complement activation in normal and diseased human glomeruli. <i>Kidney Int</i> 1989, 36: 1069.</li><li>3. Zwirner, J et al; Classical pathway of complement activation in mammalian kidneys. <i>Immunology</i> 1993, 80: 162.</li><li>4. Feucht, H et al; Capillary deposition of C4d complement fragment and early renal graft loss. <i>Kidney Int</i> 1993, 43: 1333.</li></ol>
<b>Also available</b>	HM2229                      Monoclonal antibody against Human C4d, clone 12D11 HM2198                      Monoclonal antibody against Human C3d, clone 3 HM2199                      Monoclonal antibody against Human C3g, clone 9 HM2200                      Monoclonal antibody against Human C3c, clone 4 HM2167                      Monoclonal antibody against Human TCC, C9 neoantigen, clone aE11