

---

|                          |  |
|--------------------------|--|
| <b>Product name:</b>     | HLA-DRA (4K6) Rabbit Monoclonal Antibody   |
| <b>Cat number:</b>       | MABN12087  |
| <b>Conjugate:</b>        | Unconjugated   |
| <b>Size:</b>             | 100µL  |
| <b>Clone:</b>            | Monoclonal   |
| <b>Concentration:</b>    | 1mg/ml   |
| <b>Host:</b>             | Rabbit   |
| <b>Isotype:</b>          | IgG  |
| <b>Immunogen:</b>        | A synthetic peptide of human HLA-DR  |
| <b>Reactivity:</b>       | Human  |
| <b>Applications:</b>     | WB 1:1000-1:5000,IHC 1:100-1:1000,ICC/IF 1:200-1:500,FC 1:20-1:50  |
| <b>Molecular Weight:</b> | 29kDa  |
| <b>Purification:</b>     | Affinity purification  |
| <b>Form:</b>             | Liquid   |
| <b>Buffer:</b>           | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle. |
| <b>Storage:</b>          | Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.   |

**Background:**

HLA-DRA is one of the HLA class II alpha chain paralogues. This class II molecule is a heterodimer consisting of an alpha and a beta chain, both anchored in the membrane. It plays a central role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells (APC: B lymphocytes, dendritic cells, macrophages). An alpha chain of antigen-presenting major histocompatibility complex class II (MHCII) molecule. In complex with the beta chain HLA- DRB, displays antigenic peptides on professional antigen presenting cells (APCs) for recognition by alpha-beta T cell receptor (TCR) on HLA-DR-restricted CD4-positive T cells. This guides antigen-specific T- helper effector functions, both antibody-mediated immune response and macrophage activation, to ultimately eliminate the infectious agents and transformed cells (PubMed:29884618, PubMed:17334368, PubMed:8145819, PubMed:15322540, PubMed:22327072, PubMed:27591323, PubMed:31495665, PubMed:15265931, PubMed:9075930, PubMed:24190431). Typically presents extracellular peptide antigens of 10 to 30 amino acids that arise from proteolysis of endocytosed antigens in lysosomes (PubMed:8145819). In the tumor microenvironment, presents antigenic peptides that are primarily generated in tumor-resident APCs likely via phagocytosis of apoptotic tumor cells or macropinocytosis of secreted tumor proteins (PubMed:31495665). Presents peptides derived from intracellular proteins that are trapped in autolysosomes after macroautophagy, a mechanism especially relevant for T cell selection in the thymus and central immune tolerance (PubMed:17182262, PubMed:23783831). The selection of the immunodominant epitopes follows two processing modes: 'bind first, cut/trim later' for pathogen-derived antigenic peptides and 'cut first, bind later' for autoantigens/self- peptides (PubMed:25413013). The anchor residue at position 1 of the peptide N-terminus, usually a large hydrophobic residue, is essential for high affinity interaction with MHCII molecules (PubMed:8145819).