**Overview**

- **Product name**: Anti-HLA-DP antibody [B7/21]  
- **Description**: Mouse monoclonal [B7/21] to HLA-DP  
- **Host species**: Mouse  
- **Specificity**: This antibody recognizes the human major histocompatibility complex (MHC) class II protein HLA-DP, which consists of an alpha and beta chain. MHC Class II (HLA-DP) is expressed on antigen-presenting cells (APCs) including B cells, dendritic cells, Langerhans cells and macrophages. It is also expressed by activated human T cells. HLA-DP initiates immune responses by presenting extracellular antigens to CD4+ T cells. The B7/21 clone recognizes HLA-DP1, DP2, DP3, DP4 and DP5 and recognizes both the alpha and beta chains (PubMed IDs 3494718 and 6192342).  
- **Tested applications**: Suitable for: Flow Cyt, Inhibition Assay, ICC/IF  
- **Species reactivity**: Reacts with: Mouse, Human  
- **Immunogen**: The details of the immunogen for this antibody are not available.  
- **Positive control**: IF/ICC: Raw 246.7 cells.  
- **General notes**: This antibody clone is manufactured by Abcam. If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here.

**Properties**

- **Form**: Liquid  
- **Storage instructions**: Shipped at 4°C. Store at +4°C.  
- **Storage buffer**: pH: 7.4  
  Preservative: 0.02% Sodium azide  
  Constituents: PBS, 6.97% L-Arginine  
- **Purity**: Protein A purified  
- **Clonality**: Monoclonal  
- **Clone number**: B7/21  
- **Isotype**: IgG3

**Applications**
Relevance
HLA-DPA1 belongs to the HLA class II alpha chain paralogues. This class II molecule is a heterodimer consisting of an alpha (DPA) and a beta (DPB) chain, both anchored in the membrane. It plays a vital role in the immune system by presenting peptides derived from extracellular proteins. Class II molecules are expressed in antigen presenting cells (B lymphocytes, dendritic cells and macrophages). Within the DP molecule the alpha and beta chain contain the polymorphisms governing the peptide binding specificities, resulting in up to 4 different molecules.

Cellular localization
Type I membrane protein; Cell Membrane, Endoplasmic reticulum and Golgi Apparatus

Images
Raw 246.7 cells stained for HLA-DP (colored green) using ab20897 in ICC/IF. The cells were fixed with 4% formaldehyde (10 min) then permeabilized using 0.1% Triton X-100 in PBS buffer and then incubated in 1% bovine serum albumin (BSA) + 10% normal goat serum + 0.3 M glycine + 0.1% Tween-20 in PBS buffer for 1 hour to further permeabilize the cells and block non-specific protein-protein interactions. The cells were then incubated with the HLA-DP antibody ab20897 at 5 µg/ml overnight at +4°C. The secondary antibody (colored green) was Alexa Fluor® 488 goat anti-mouse (ab150117) IgG (H+L) preadsorbed, used at a 1/1000 dilution for 1 hour. Alexa Fluor® 594 WGA was used to label plasma membranes (colored red) at a 1/200 dilution for 1 hour at room temperature. DAPI was used to stain the cell nuclei (colored blue) at a concentration of 1.43 µM for 1 hour at room temperature.

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