Monoclonal Mouse Anti-Human CD68
Clone EBM11

**Code M0718**

**Intended use**

For in vitro diagnostic use.

Monoclonal Mouse Anti-Human CD68, Clone EBM11, is intended for use in immunohistochemistry (IHC). The antibody labels CD68-expressing cells (1, 2) in normal (3) and neoplastic tissue (4). Differential classification of tumors is aided by the results from a panel of antibodies. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient’s clinical history and other diagnostic tests by a qualified pathologist. This antibody is intended to be used after the primary diagnosis of tumor has been made by conventional histopathology using nonimmunologic histochemical stains.

**Summary and explanation**

CD68 is a highly glycosylated lysosomal membrane protein with an Mr of 110 000. The CD68 protein belongs to a family of lysosomal glycoprotein (LGP)/plasma membrane shuttling proteins that play a role in endocytosis and/or lysosomal trafficking. CD68 is expressed strongly in cytoplasmic granules, and weakly on the surface of macrophages, monocytes, neutrophils, basophils and NK-cells. Additionally, CD68 is expressed in some peripheral blood B cells and may be weakly expressed in B-cell type acute lymphoblastic leukemia (B-ALL) cells. CD68 can also be found in the cytoplasm of non-hematopoietic tissues, especially the liver, and renal glomeruli, and tubules (5). Unlike many other CD leucocyte antigens, the CD68 molecule is antigenically very heterogenous, and different antibodies to CD68 show different cellular reactivities (6).

Refer to Dako General Instructions for Immunohistochemical Staining or the detection system instructions of IHC procedures for: Principle of Procedure; Materials Required, Not Supplied; Storage, Specimen Preparation; Staining Procedure; Quality Control; Troubleshooting; Interpretation of Staining; General Limitations.

**Reagent provided**

Monoclonal mouse antibody provided in liquid form as cell culture supernatant dialyzed against 50 mmol/L Tris-HCl, pH 7.2, and containing 15 mmol/L NaN3.

Clone: EBM11. Isotype: IgG1, kappa.

Mouse IgG concentration: See label on vial.

The protein concentration between lots may vary without influencing the optimal dilution. The titer of each individual lot is compared and adjusted to a reference lot to ensure a consistent immunohistochemical staining performance from lot-to-lot.

**Immunogen**

Macrophages isolated from human lung.

**Specificity**

The antibody was clustered as anti-CD68 at the Fourth International Workshop and Conference on Human Leucocyte Differentiation Antigens (1).

SDS-PAGE analysis of immunoprecipitates formed between spleen cell lysate and the antibody shows reaction with 110 kDa band, corresponding to CD68 (2).

**Precautions**

1. For in vitro diagnostic use.
2. For professional users.
3. This product contains sodium azide (Na3N), a chemical highly toxic in pure form. At product concentrations, though not classified as hazardous, sodium azide may react with lead and copper plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent metal azide build-up in plumbing.
4. As with any product derived from biological sources, proper handling procedures should be used.
5. Wear appropriate Personal Protective Equipment to avoid contact with eyes and skin.
6. Unused solution should be disposed of according to local, State and Federal regulations.

**Storage**

Store at 2-8 C. Do not use after expiration date stamped on vial. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact Dako Technical Support.

**Specimen preparation**

Paraffin sections: The antibody cannot be used for labelling paraffin-embedded tissue sections fixed in formalin.

Frozen sections and cell preparations: The antibody can be used for labelling acetone fixed, frozen sections.

**Staining procedure**

These are guidelines only. Optimal conditions may vary depending on specimen type and preparation method, and should be validated individually by each laboratory. The performance of this antibody should be established by the user when utilized with other manual staining systems or automated platforms.

**Dilution:** Monoclonal Mouse Anti-Human CD68, Code M0718 may be used at a dilution range of 1:50-1:100 when applied acetone-fixed, frozen sections of human tonsil and 30 minutes incubation at room temperature with the primary antibody. The recommended negative control is Dako Mouse IgG1, Code X0931, diluted to the same mouse IgG concentration as the primary antibody.

**Visualization:** Dako EnVision+ HRP kit, e.g. Code K4005, are recommended. Follow the procedure enclosed with the selected visualization kit.
Quality control: Positive and negative control tissues as well as negative control reagent should be run simultaneously using the same protocol as the patient specimens.

Staining interpretation

The antibody generates a granular staining pattern due to labeling of intracytoplasmatic granular structures and not macrophage membranes.

Performance characteristics

Normal tissues: The antibody labels macrophages and interdigitating reticulum cells in tonsil (3).

Abnormal tissues: The antibody labeled macrophages in both 18 normal/benign breast tissues and in 59 cases of breast carcinomas. The number of macrophages (defined by clone EBM11 labeling) was significantly higher in malignant than in normal/benign disease (4).

References


