

DOG1 (K9)

Format	Catalog no.	Pack size	Dilution
Concentrated	GB DG1 A,B,C	0.1,0.5,1.0 mL	1:100
Prediluted	GB DG1 AA	6.0 mL	Ready to use

PRODUCT DESCRIPTION -

The **DOG1 antigen** is a **transmembrane protein** expressed on the cell surface. It is encoded by the **ANO1 gene** (also known as **TMEM16A**), and it is a **calcium-activated chloride channel**. DOG1 is considered a highly specific marker for **GISTs**, which are the most common mesenchymal tumors of the gastrointestinal tract.

K9 is a specific monoclonal antibody clone used to detect DOG1. It is widely used in clinical diagnostics, especially in **immunohistochemistry (IHC)**, to identify DOG1 expression in tumor tissue samples.

DOG1 is **strongly expressed** on the surface of **GIST cells**, particularly in **c-kit-negative GISTs** (those that do not express the typical marker **CD117**). This makes DOG1 a valuable marker for diagnosing GISTs, especially in cases where traditional markers like **CD117** may be negative or inconclusive. DOG1 is also expressed in **other cell types**, including smooth muscle cells, and is found in **normal tissues**, such as in **sweat glands** and **myoepithelial cells**.

DOG1 is a **calcium-activated chloride channel** (TMEM16A) involved in cellular processes such as **fluid secretion** and **ion transport**. In the context of GISTs, it is thought to play a role in cell survival, proliferation, and possibly tumorigenesis.

INTENDED USE -

Intended for In Vitro Diagnostic Applications

DOG1 (K9) is a mouse monoclonal antibody that is intended for professional laboratory use after the initial diagnosis of tumor has been made by conventional histopathology using nonimmunologic histochemical stains, in the qualitative identification of **DOG1 (K9)** protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. 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 as an aid in making any other clinical determinations

SUMMARY AND EXPLANATION -

The **DOG1 antigen** is a **transmembrane protein** expressed on the cell surface. It is encoded by the **ANO1 gene** (also known as **TMEM16A**), and it is a **calcium-activated chloride channel**. DOG1 is considered a highly specific marker for **GISTs**, which are the most common mesenchymal tumors of the gastrointestinal tract.

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PRINCIPLE OF PROCEDURE -

This antibody product may be used as the primary antibody in immunohistochemistry testing of formalin-fixed, paraffin-embedded tissue sections. In general, immunohistochemical (IHC) staining techniques allow for the visualization of antigens via the sequential application of a specific antibody to the antigen (primary antibody), a secondary antibody to the primary antibody (optional link antibody/probe), an enzyme complex and a chromogenic substrate with interposed washing steps. The enzymatic activation of the chromogen results in a visible reaction product at the antigen site. The specimen may then be counterstained, and cover slipped. Results are interpreted using a light microscope and aid in the differential diagnosis of pathophysiological processes, which may or may not be associated with a particular antigen.

SOURCE -: Mouse monoclonal

SPECIES REACTIVITY - Human

CLONE- K9

ISOTYPE- IgG

PROTEIN CONCENTRATION - Call for lot specific Ig concentration.

EPITOPE/ANTIGEN - TMEM16A (calcium-activated chloride channel).

CELLULAR LOCALISATION - Cell surface (particularly in GIST cells, smooth muscle, sweat glands, and myoepithelial cells)

POSITIVE TISSUE CONTROL - GISTs (especially c-kit-negative), renal tubular epithelium, sweat glands, smooth muscle cells.

KNOWN APPLICATIONS- Immunohistochemistry

30-40 min. At RT. Staining of formalin-fixed tissues requires heating tissue sections in between pH 7.4 - 9.0 for 45 min at 95°C followed by cooling at room temperature for 20 minutes.

SUPPLIED AS - Buffer with protein carrier and preservative

STORAGE AND STABILITY -

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C

Materials required but not provided -

- 1) Positive tissue control - GISTs (especially c-kit-negative), renal tubular epithelium, sweat glands, smooth muscle cells.
- 2) Negative control tissue(internal or external)
- 3) Microscope slides and coverslips
- 4) Staining jars or baths
- 5) Timer
- 6) Xylene or xylene substitute
- 7) Ethanol or reagent alcohol
- 8) Deionized or distilled water
- 9) Heating equipment or enzyme for tissue pretreatment step
- 10)Detection system
- 11)Chromogen
- 12)Wash buffer
- 13)Hematoxylin
- 14)Antibody diluents
- 15)Peroxide block
- 16)Light microscope
- 17)Mounting medium

LIMITATIONS -

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Genebio products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.