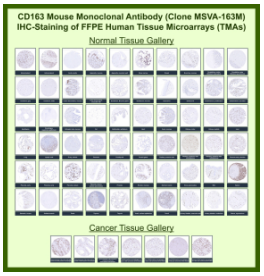
CD163 Antibody for IHC / CD163 Immunohistochemistry Antibody [clone MSVA-163M] (V6144)

Catalog No.	Formulation	Size
V6144-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6144-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant | MOUSE MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2b, kappa
Clone Name	MSVA-163M
UniProt	Q86VB7
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This CD163 Antibody for IHC / CD163 Immunohistochemistry Antibody is available for research use only.



CD163 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of CD163 (Cluster of Differentiation 163) expression across formalin-fixed, paraffin-embedded human tissue microarrays using CD163 Immunohistochemistry Antibody clone MSVA-163M. The array contains a broad range of normal and cancer tissues, showing strong membranous and cytoplasmic HRP-DAB brown staining in macrophage populations, with prominent labeling in spleen, liver, lung, and lymphoid tissues, while most non-hematopoietic parenchymal cells remain negative. In cancer tissue arrays, CD163-positive tumor-associated macrophages are variably enriched within tumor stroma and at invasive margins, highlighting macrophage infiltration patterns consistent with tumor microenvironment remodeling and immunosuppressive signaling. The staining profile aligns with known CD163 expression patterns and Human Protein Atlas data.

Description

Cluster of Differentiation 163 (CD163), encoded by the CD163 gene, is a hemoglobin scavenger receptor expressed predominantly on monocytes and tissue-resident macrophages. CD163 is widely recognized as a marker of alternatively activated macrophages and plays a central role in clearance of hemoglobin-haptoglobin complexes, regulation of

inflammation, and tissue remodeling. CD163 expression is particularly enriched in macrophage populations associated with anti-inflammatory and immunoregulatory functions and is commonly used to identify M2-like macrophages in tissue sections.

CD163 Antibody for IHC, also referred to as CD163 immunohistochemistry antibody or macrophage marker antibody in the literature, is specifically optimized for detecting CD163-positive cells in formalin-fixed, paraffin-embedded tissues. This CD163 Antibody for IHC / CD163 Immunohistochemistry Antibody is uniquely positioned for high-confidence identification of macrophage populations within intact tissue architecture, enabling detailed evaluation of immune cell infiltration and spatial distribution. Clone MSVA-163M antibody has been tested on human tissue microarrays (TMA), supporting consistent staining performance across a broad range of normal and cancer tissues and reinforcing its suitability for comparative tissue analysis.

In immunohistochemistry applications, CD163 is typically observed as strong membranous and cytoplasmic HRP-DAB brown staining in macrophages localized within stromal regions, perivascular niches, and sites of active inflammation. Tissue microarray (TMA) analysis demonstrates robust and reproducible labeling of macrophage populations across multiple organ systems, including spleen, liver, lung, and lymphoid tissues, while most non-hematopoietic parenchymal cells remain negative. This consistent staining pattern supports reliable identification of macrophage lineage cells across diverse tissue contexts.

Within tumor tissues, CD163-positive tumor-associated macrophages are frequently enriched in the tumor microenvironment, where they localize around tumor nests, invasive fronts, and vascular structures. TMA-based evaluation highlights variability in macrophage density and distribution across different tumor types, providing insight into tumor microenvironment composition and immune infiltration patterns. These macrophages are associated with immunosuppressive signaling, extracellular matrix remodeling, and promotion of tumor growth and angiogenesis.

A major advantage of using a CD163 antibody for IHC is its ability to distinguish macrophage subsets with anti-inflammatory and pro-tumorigenic characteristics. CD163-positive macrophages are often correlated with poor prognosis in multiple cancer types, including breast, lung, and colorectal carcinomas. Tissue microarray analysis further enables high-throughput comparison of macrophage infiltration across large sample sets, supporting biomarker studies and translational research.

CD163 expression is regulated by cytokines such as IL10, glucocorticoids, and other anti-inflammatory mediators, and is upregulated in conditions associated with chronic inflammation, tissue repair, and immune modulation. Detection of CD163 by immunohistochemistry therefore provides insight into macrophage activation states and the balance between pro-inflammatory and anti-inflammatory signaling within tissues.

In addition to its role in hemoglobin clearance, CD163 contributes to modulation of oxidative stress and cytokine signaling pathways that support resolution of inflammation and maintenance of tissue homeostasis. These functional roles make CD163 a valuable marker for studying macrophage biology in both physiological and pathological contexts.

The CD163 gene is located on chromosome 12p13 and encodes a transmembrane protein belonging to the scavenger receptor cysteine-rich superfamily. Its restricted expression pattern and strong association with macrophage lineage cells make it a highly specific and reliable marker for immunohistochemical detection.

This CD163 antibody for IHC is suitable for detecting CD163 expression in formalin-fixed tissue sections, with demonstrated performance in tissue microarray (TMA) analysis supporting studies of tumor microenvironment composition, macrophage infiltration, and inflammatory disease processes.

This antibody is part of a broader collection of CD Antibodies designed for detecting immune cell markers and profiling leukocyte populations across tissue-based and cellular assays.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting

consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the CD163 Antibody for IHC / CD163 Immunohistochemistry Antibody should be determined by the researcher.

2. This CD163 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment of human CD163 protein (around amino acids 43-196) (exact sequence is proprietary) was used as the immunogen for the CD163 Antibody.

Storage

CD163 Antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

CD163 immunohistochemistry antibody, CD163 IHC antibody, scavenger receptor CD163 antibody, hemoglobin scavenger receptor antibody, M130 macrophage marker antibody