



CD105/Endoglin

IHC of CD105 on an FFPE Tonsil Tissue

Description CD105/Endoglin is a Type I membrane glycoprotein located on cell surfaces and is part of the TGF beta receptor complex. This protein has been found on endothelial cells, activated macrophages, fibroblasts, and smooth-muscle cells. Endoglin has a role in the development of the cardiovascular system and in vascular remodeling. Its expression is regulated during heart development. In humans, Endoglin may be involved in the autosomal dominant disorder known as Hereditary Hemorrhagic Telangiectasia Type 1.

CD105 is highly expressed in endothelial cells during tumor angiogenesis and inflammation, with weak or negative expression in vascular endothelium of normal tissues. Angiogenesis is controlled by angiogenic factors, mostly secreted by tumor cells. Vascular Endothelial Growth Factor (VEGF) is a potent angiogenic growth factor that stimulates endothelial cell proliferation and induces microvessel permeability. Studies have demonstrated a correlation between VEGF expression and vascular density. Angiogenesis has been proposed as a promising prognostic marker in a variety of tumors. Most studies of angiogenesis have been done with pan-endothelial markers such as CD31 or CD34. Endoglin is a more specific and sensitive marker for tumor angiogenesis than CD31, as it labels only newly-formed blood vessels and may serve as a prognostic marker for Prostate Adenocarcinoma, and cancers of the lung, stomach, breast, and brain. CD105 may serve as a target for anti-angiogenesis therapy.

Antibody Type	Mouse Monoclonal	Clone	MRQ-14
Isotype	IgG1/K	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic	Control	Tonsil, Renal Cell Carcinoma
Storage	Store at 2°-8°C	Stability	2 years

For long-term storage of the concentrated antibody, it is recommended that aliquots of the antibody be frozen at -20°C in glycerol 50% (frost-free freezers are not recommended). Repeated freezing and thawing must be avoided. Dilute using an antibody diluent such as ImmunoDetector Protein Block/Antibody Diluent (BSB 0040 and BSB 0041) or ImmunoDNA Background Blocker (BSB 0103-BSB 0107).

Presentation CD105/Endoglin is a mouse monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Availability	Catalog No.	Antibody Type	Dilution	Volume/QTY
	BSB 6261	Prediluted	Ready-To-Use	3.0 ml
	BSB 6262	Prediluted	Ready-To-Use	7.0 ml
	BSB 6263	Prediluted	Ready-To-Use	15.0 ml
	BSB 6264	Concentrated	1:25-1:100	0.1 ml
	BSB 6265	Concentrated	1:25-1:100	0.5 ml
	BSB 6266	Concentrated	1:25-1:100	1.0 ml
	BSB 6267	Control Slides		5

Note: For concentrated antibodies, please centrifuge prior to use to ensure recovery of all product.

- References**
1. Barresi V, et al. *Acta Neuropathol.* 2007;114 (2):147-56
 2. Cîmpean AM, et al. *Rom J Morphol Embryol.* 2007;48 (1):41-5
 3. El-Gohary YM, et al. *Am J Clin Pathol.* 2007;127(4):572-9
 4. Kyzas PA, et al. *Virchows Arch.* 2006;448(6):768-75

Protocol Suggested protocol on reverse

Recommended Immunohistochemical Protocol

- Pretreatment**
1. Cut and mount 3-4 micron formalin-fixed paraffin-embedded tissues on positive charged slides.
 2. Air dry for 2 hours at 58° C.
 3. Deparaffinize, dehydrate and rehydrate tissues.
 4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as **ImmunoDNA Retriever with Citrate** (BSB 0020-BSB 0023) or **EDTA** (BSB 0030-BSB 0033).
 5. Any of three heating methods may be used:
 - a. **Electric Pressure Cooker**
Place standoff rack at base of pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high, and incubate for 15 minutes. Open and immediately transfer slides to room temperature.
 - b. **Water Bath Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a water bath set at 95°-99° C. Incubate for 30-60 minutes.
 - c. **Conventional Steamer Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the **ImmunoDNA Retriever with Citrate** or **EDTA** in a Steamer, cover and steam for 30-60 minutes.
 6. After heat treatment, transfer slides in **ImmunoDNA Retriever with Citrate** or **EDTA** to room temperature and let stand for 15-20 minutes.
 7. Wash slides with IHC wash buffer or DI water.
 8. Continue IHC staining protocol.

Immunohistochemical Protocol

Step	ImmunoDetector (AP or HRP)	PolyDetector (AP or HRP)
Peroxidase/AP Block	5 minutes	5 minutes
Primary Antibody	30 minutes	45 minutes
Secondary Biotinylated Link	10 minutes	Not Applicable
AP or HRP Label	10 minutes	45 minutes
Substrate-Chromogen	5-10 minutes	10 minutes
Counterstaining	Time varies with counterstain	Time varies with counterstain

