



Calcitonin

IHC of Calcitonin on an FFPE Thyroid Tissue

Description Calcitonin is a 32-amino acid polypeptide hormone that is produced in humans primarily by C-cells located in the thyroid, and in many other animals in the ultimobranchial gland. It acts to reduce blood calcium (Ca²⁺), opposing the effects of parathyroid hormone (PTH). It has been found in fish, reptiles, birds, and mammals. Its importance in humans has not been as well established as in other animals.

Immunohistochemical staining with Calcitonin antibody has proven to be an effective way of demonstrating the existence of Calcitonin-producing cells in the thyroid. C-cell Hyperplasia and Medullary Thyroid Carcinomas stain positive for Calcitonin. Studies of Calcitonin have resulted in the identification of a wide spectrum of C-cell proliferative abnormalities.

Antibody Type	Rabbit Polyclonal	Clone	N/A
Isotype	N/A	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic	Control	Thyroid, Medullary Carcinoma of Thyroid
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 Calcitonin is a purified immunoglobulin fraction of rabbit antiserum that is 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 5113	Prediluted	Ready-To-Use	3.0 ml
	BSB 5114	Prediluted	Ready-To-Use	7.0 ml
	BSB 5115	Prediluted	Ready-To-Use	15.0 ml
	BSB 5116	Concentrated	1:250-1:1000	0.1 ml
	BSB 5117	Concentrated	1:250-1:1000	0.5 ml
	BSB 5118	Concentrated	1:250-1:1000	1.0 ml
	BSB 5119	Control Slides		5

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

- References**
1. Copp DH, et al. *Endocrinology*. 1962;70:638-649
 2. Kameda Y, et al. *Cell Tissue Res*. 1980;206:403-415
 3. Coombes RC, et al. *Lancet*. 1974;1:1080-1083
 4. Dayal Y, et al. *Cancer*. 1979; 43:1331-1338
 5. DeLellis RA, et al. *Am J Clin Pathol*. 1978;70:587-2

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

