# Bioscience for the world hGAL/GCET2

**Clone:** EP316 Rabbit Monoclonal





Inset: IHC of hGAL/GCET2 on a FFPE Tonsil Tissue

## Intended Use

For In Vitro Diagnostic Use.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections and cell preparations. Interpretation of results should be performed by a qualified medical professional.

#### Immunogen

A synthetic peptide corresponding to residues of human hGAL (GCET2) protein.

#### Summary and Explanation

HGAL, also known as Germinal Center-associated Lymphoma Protein or GCET, is an important prognostic marker for staging Lymphomas derived from germinal centers. Analysis of the GCET2 protein sequence indicated that it may be involved in signal transduction in the cytoplasm. The HGAL gene comprises 6 exons and encodes a cytoplasmic protein of 178 amino acids that contains an immunoreceptor tyrosine-based activation motif (ITAM). Two newly characterized germinal center B-cell-associated genes, GCET1 and GCET2, have differential expression in normal and neoplastic B cells. Expression of the HGAL gene is specifically induced in B cells by interleukin-4 (IL-4).

The HGAL protein has been shown to be expressed in the cytoplasm of germinal center B lymphocytes and in B cell lymphomas of germinal center derivation. HGAL is absent in Mantle and Marginal zone B-cells and in the Interfollicular and Paracortical regions in normal Tonsils and Lymph Nodes. HGAL is an ideal marker for the detection of Germinal Center-derived B-cell Lymphomas and has the highest overall sensitivity of detecting Follicular Lymphoma. HGAL has been identified in gene-expression profiling studies of Diffuse Large B-Cell Lymphoma (DLBCL). Among 727 Lymphomas tested by immunohistochemistry on tissue microarrays, HGAL staining was found in Follicular Lymphomas (103 of 107), Burkitt Lymphomas (40 of 40), Mediastinal Large B Lymphomas (7 of 8), and in DLBCLs (103 of 151). Expression of HGAL protein identifies a subset of classic Hodgkin Lymphoma of Germinal Center derivation with improved survival.

Antibody Type	Rabbit Monoclonal	Clone	EP316	
lsotype	lgG	Reactivity	Paraffin, Frozen	
Localization	Cytoplasmic	Species	Human	
		Reactivity		
Control	Tonsil, Lymph Node, Thymus, Fallopian Tube, Germinal			
	Center B-cell Type Diffuse Large B-cell Lymphoma			
Application	Lymphoma, Hodgkin's & NH Lymphoma			

### Presentation

Anti-hGAL/GCET2 is a Rabbit 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.

Catalog No.	Presentation	Dilution	Volume/Qty
BSB 2936	Predilute	Ready-to-Use	3.0 mL
BSB 2937	Predilute	Ready-to-Use	7.0 mL
BSB 2938	Predilute	Ready-to-Use	15.0 mL
BSB 2939	Concentrate	1:25-1:100	0.1 mL
BSB 2940	Concentrate	1:25-1:100	0.5 mL
BSB 2941	Concentrate	1:25-1:100	1.0 mL

#### **Control Slides Available**

Catalog No.	Quantity	
BSB-9217-CS	5 slides	

Storage Store at 2-8°C (Control Slides: Store at 20-25°C)

# Precautions

1. For professional users only. Results should be interpreted by a qualified medical professional.

2. This product contains <0.1% sodium azide (NaN<sub>3</sub>) as a preservative. Ensure proper handling procedures are used with this reagent.

3. Always wear personal protective equipment such as a laboratory coat, goggles, and gloves when handling reagents.

4. Dispose of unused solution with copious amounts of water.

5. Do not ingest reagent. If reagent is ingested, seek medical advice immediately.

6. Avoid contact with eyes. If contact occurs, flush with large quantities of water.

7. Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).

8. For additional safety information refer to Safety Data Sheet for this product.

9. For complete recommendations for handling biological specimens, please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (see References in this document).

# Stability

This product is stable up to the expiration date on the product label. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use and

avoid prolonged exposure to room temperature conditions.

### **Specimen Preparation**

**Paraffin sections:** The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation for best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033), or ImmunoDNA Digestor (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

**Frozen sections and cell preparations:** The antibody can be used on acetone-fixed frozen sections and acetone-fixed cell preparations.

#### **IHC Protocol**

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positively charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).

2. Air dry for 2 hours at 58° C.

3. Deparaffinize, dehydrate, and rehydrate tissues.

4. Subject tissues to heat induced epitope retrieval (HIER) 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. TintoRetriever Pressure Cooker or Equivalent

Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA and place on trivet in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.

#### b. TintoRetriever PT Module or Water Bath Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA 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. For manual IHC, perform antibody incubation at ambient temperature. For automated IHC methods, perform antibody incubation according to instrument manufacturer's instructions.

8. Wash slides with ImmunoDNA washer or DI water.

9. Continue IHC protocol. Wash slides between each step with ImmunoDNA washer solution.

#### Abbreviated Immunohistochemical Protocol

Step	ImmunoDetector AP/HRP	PolyDetector AP/HRP	PolyDetector Plus HRP
Peroxidase/AP Blocker	5 min.	5 min.	5 min
Primary Antibody	30-60 min.	30-60 min.	30-60 min.
1st Step Detection	10 min.	30-45 min.	15 min.
2nd Step Detection	10 min.	Not Applicable	15 min.
Substrate- Chromogen	5-10 min.	5-10 min.	5-10 min.
Counterstain / Coverslip	Varies	Varies	Varies

#### Mounting Protocols

For detailed instructions using biodegradable permanent mounting media such as XyGreen PermaMounter (BSB 0169-0174) or organic solvent based resin such as PermaMounter (BSB 0094-0097), refer to PI0174 or PI0097.

#### **Product Limitations**

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized, and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a qualified medical professional.

#### References

1. Steinke, J.W. et al. Identification of a sp factor-dependent promoter in GCET, a gene expressed at high levels in germinal center B cells. Mol Immunol. 2004 Nov; 41(12):1145-53.

2. Natkunam, Y., et al. Expression of the human germinal center-associated lymphoma (HGAL) protein identifies a subset of classic Hodgkin lymphoma of germinal center derivation and improved survival. Blood. 2007 Jan 1; 109(1):298-305.

3. Pan, Z., et al. Two newly characterized germinal center B-cell-associated genes, GCET1 and GCET2, have differential expression in normal and neoplastic B cells. Am J Pathol. 2003 Jul; 163(1):135-44. 4. Lossos, I.S., et al. HGAL is a novel interleukin-4-inducible gene that strongly predicts survival in diffuse large B-cell lymphoma. Blood. 2003 Jan 15; 101(2):433-40.

5. Lu, X., et al. HGAL, a lymphoma prognostic biomarker, interacts with the cytoskeleton and mediates the effects of IL-6 on cell migration. Blood. 2007; 110(13):4268-77.

6. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012.

https://www.cdc.gov/mmwr/pdf/other/su6101.pdf

#### Symbol Key / Légende des symboles/Erläuterung der Symbole QAdvis EAR AB Storage Temperature Manufacturer Catalog Number Ideon Science Park EC REP Limites de température Référence du catalogue Fabricant REF Scheelevägen 17 1 Zulässiger Temperaturbereich Hersteller Bestellnummer SE-223 70 Lund, Sweden Read Instructions for Use In Vitro Diagnostic Medical Device Expiration Date Lot Number Consulter les instructions Ĩ IVD Dispositif médical de diagnostic in vitro Utiliser jusque LOT Code du lot d'utilisation In-Vitro-Diagnostikum Verwendbar bis Chargenbezeichnung Gebrauchsanweisung beachten O 🔘

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5385 Hollister Avenue, Bldg. 8, Ste. 108 Santa Barbara, CA 93111, USA Tel. (805) 692-2768 | Tel. (800) 561-1145 | Fax. (805) 692-2769 E-mail: sales@biosb.com | Website: www.biosb.com