EPITOMICS
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RUO DATA SHEET

Anterior Gradient 2 (AGR2)

Concentrated Rabbit Monoclonal Antibody

Intended Use:
For Research Use Only (RUO)

Epitomics' Rabbit Monoclonal Anti-Human Anterior Gradient 2, Clone EP329, is intended for use to qualitatively identify Anterior Gradient 2 by light microscopy in sections of formalin-fixed, paraffin-embedded tissue using immunohistochemical detection methodology.

Catalog number	Description	Dilution
AC-0286RUO	0.1 ml, concentrated	1:100-1:200
AC-0286RUOB	0.5 ml, concentrated	1:100-1:200
AC-0286RUOC	1 ml, concentrated	1:100-1:200
AC-0286RUOBULK	2 ml or more, concentrated	1:100-1:200

Immunogen: A synthetic peptide corresponding to residues of human Anterior Gradient 2 protein
Source: Rabbit Monoclonal Antibody
Clone ID: EP329
Isotype: Rabbit IgG
Application: Immunohistochemistry for formalin-fixed paraffin-embedded tissue

Summary and Explanation:
Anterior Gradient 2 (AGR2), also known as HAG-2 or Gob-4, is the human orthologue of the *Xenopus laevis* AGR protein XAG-2. In the frog embryo, XAG-2 is involved in cement gland differentiation and neural marker expression. However, the function of AGR2 in humans is unclear. *AGR2* was first identified in studies focused on differentiating genes in estrogen receptor (ER)-positive breast cancers and is predominately expressed in tissues that contain mucus-secreting cells and/or function as endocrine organs. Strong *AGR2* mRNA expression was found in normal human colon, stomach, rectum, prostate and breast.

AGR2 has been shown to be co-expressed with ER in breast cancer cell lines and overexpression was found to attenuate p53 activation in UV-damaged cells. Immunohistochemical studies demonstrated cytoplasmic AGR2 staining in 65-83% of breast cancers. Positive staining for AGR2 in ER-positive breast cancers was significantly associated with poorer patient survival.

Subsequent studies have also shown elevated AGR2 expression in adenocarcinomas of the esophagus, pancreas, and prostate. ARG2 expression was also highly expressed in Barrett's esophagus, a premalignant lesion characterized by intestinal metaplasia compared with normal esophageal epithelium.

Reagent Provided:
Antibody to Anterior Gradient 2 is affinity purified and diluted in 10 mM phosphate buffered saline (PBS), pH 7.2 containing 1% bovine serum albumin (BSA) and 0.09% sodium azide (NaN_3).

Storage and Stability:
Store at 2-8 °C. Do not use after expiration date provided on the vial. End user must validate any storage conditions other than those specified.

Procedures Recommended:
1. Pretreatment: Epitope retrieval using Tris/EDTA (catalog #: SP-0004) with a pressure cooker.
2. Endogenous peroxidase block: Block for 10 minutes at room temperature using peroxidase solution (catalog #: SP-0002).
3. Protein block: Block for 10 minutes at room temperature using blocking solution (catalog #: SP-0003).
4. Primary antibody: Incubate for 30 minutes.
5. Detection: Follow instructions from the selected detection system (EpiPrecision™, a Biotin Streptavitin-HRP Detection, catalog #: DK-0001, 0003, or EpiVision™, a Rabbit Polymer Detection, catalog # DK-0002, 0004).

The antibody dilution and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory.

Performance Characteristics:
This antibody gives cytoplasmic staining in positive cells. The recommended positive controls are breast for normal tissue and estrogen receptor (ER) positive-breast cancer for abnormal tissue.

Limitations:
Immunohistochemistry is a complex process. Variation in tissue selection, tissue processing, antigen retrieval, peroxidase activity, detection systems and improper counterstaining may cause variation in results.

References:
1. Fritzsche FR, *et al.: Clin Cancer Res.* 2006, 12(6):1728-34.
2. Innes HE, *et al.: Br J Cancer. 2006,* 94(7):1057-65.
3. Ramachandran V, *et al.: Cancer Res.* 2008, 68(19):7811-8.
4. Wang Z, *et al.: Cancer Res. 2008,* 68(2):492-7.
5. Zhang Y, *et al.: Prostate Cancer Prostatic Dis. 2007, 10(3):293-300.*

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