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Antibodies to Ovarian Cancer Marker

MIG7 antibody (Carcinoma cell specific marker MIG7). Cat # MIG7-101AP

Alternate Nomenclature: Carcinoma specific marker MIG7, Accession # ABF71424

Identification of genes that are specifically expressed in a cancer cell-specific manner can be useful for detection and diagnosis of disease progression. One of such marker is a receptor tyrosine kinase ligands in concert with ligation of alphavbeta5 integrin induce expression of MIG7 restricted to carcinoma cells. MIG7 expression in occult tumor cells made it a marker gene for detection of such tumors. The MIG7 expression in the lymph nodes of endometrial carcinoma xenograft mice was present in 78% compared to negative controls (1). The MIG7 expression was evident in 87% of breast, lung, colon and ovary cancer specimens compared to normal tissues. Hepatocyte growth factor (HGF), a cytokine involved in tumorigenesis and most metastases, initiates cell migration by binding to the protooncogene c-Met receptor. In epithelial carcinoma cells, c-Met activation causes the breakdown of E-cadherin cell-cell contacts leading to cell spreading. While The breakdown of E-cadherin contacts is immediate, HGF-induced migration requires de novo transcription and induction of MIG7 (2), suggesting MIG7 as an early marker for migrating and circulating carcinoma cells. The blocking antibodies to alphavbeta5 integrin inhibited HGF induction of Mig-7 in RL95 cells and MIG7-specific antisense oligonucleotides inhibited scattering of endometrial carcinoma cell line RL95in vitro (2). The MIG7 factor is more specific than MET factor, a receptor tyrosine kinase that binds scatter factor and is a marker of poor progression, in endometrial carcinoma as compared to endometrial tissue samples.

MIG7 is a 207 amino acid protein with an apparent molecular weight of 25kDa. MIG7 is a cancer cell- and cytotrophoblast-specific; splenocysteine and has a selenium binding motif. MIG7 is a membrane binding protein with single transmembrane domain spanning amino acids 35-57 with extracytoplasmic amino terminal end. The MIG7 gene was mapped to chromosome 2p21-p22.

The MIG7-selective antibodies were generated against an amino terminal peptides. FabGennix Inc. has generated epitope specific rabbit anti-ESPE4 polyclonal (epitope-specific) antibodies utilizing linear and cyclic peptide sequences. The ESPE4 antibodies are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulin are stabilized in antibody stabilization buffer. Limited quantities of the antigenic blocking peptide for ESPE4 antibodies are also available (inquire for availability). *FabGennix Inc.* will also conjugate antibodies with enzymes or fluorescent probes as custom service upon request at a reasonable cost. FabGennix International Inc., has produced a number of antibodies for diagnostic use, please visit www.FabGennix.com for a complete listing.

Catalog #	Host	Description	Antigen/ control	Cross reactivity	Qty/Price
MIG7-101AP	Rabbit	Affinity purified ESPE4 Antibodies	KLH conjugated peptide	H	200ul
P-MIG7	Rabbit	Affinity purified ESPE4 antibodies (mid-region epitope)	Peptide	n/a	200ul
PC-MIG7	Rabbit	Antigenic blocking peptide for ESP-101AP antibody	Western blot positive control	n/a	100ul

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: Synthetic peptides taken from amino-terminal regions on the MIG7 protein corresponding to 1-9, the peptide was covalently modified post synthesis to achieve desired antigenicity. Modified peptide was covalently coupled to a carrier protein by heterobifunctional cross linker for immunogen preparation.

Concentration: MIG7-101AP = IgG concentration 0.68-0.95 mg/ml.

Applications: ELISA: Antibody dilution 1:10,000 for ELISA or DOT blot assay. W.B: Antibody dilution 1:500-750 for WB using PC-MIG7; IMM: n.d; IHC n.d. The cross species reactivity of this antibody has not been examined in detail.

Reactivity: The antibody MIG7-101AP labels a 28-29kDa protein in PC-MIG7 samples.

Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody can be obtained by calling Technical support line, general information on this antibody is provided with the product specification sheet, and however, FabGennix Inc. recommends investigators to optimize conditions.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45µm filter after every use for long-term storage.

***Note:** Briefly centrifuge to collect liquid before opening the vial, heat the PC-ESPE4 tube in 90°C water bath for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

Note: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat # FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating is required.

Western Blot of ESP-101 with PC-ESPE4 sample. Antibody dilution 1:500 in antibody dilution buffer (DiluOBuffer). ESPE4 approximate MW is a 15 kDa protein.

References:

1. Phillips TM, Lindsey JS. Carcinoma cell-specific Mig-7: a new potential marker for circulating and migrating cancer cells. *Oncol Rep.* 2005 Jan;13(1):37-44.
2. Crouch S, Spidel CS, Lindsey JS. HGF and ligation of alphavbeta5 integrin induce a novel, cancer cell-specific gene expression required for cell scattering *Exp Cell Res.* 2004 Jan 15;292(2):274-87).

* For users who may require large amounts of MIG7-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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