

**Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody**  
**NAG-1 H Variant Antibody**  
**Catalog # ASR4185**

**Specification**

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**Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody - Product Information**

Host	<b>Mouse</b>
Conjugate	<b>Unconjugated</b>
Target Species	<b>Human</b>
Reactivity	<b>Human</b>
Clonality	<b>Monoclonal</b>
Application	<b>WB, E, I, LCI</b>
Application Note	<b>This Protein A purified Anti-NAG1 antibody has been tested by ELISA and western blotting for human NAG-1 protein. This reagent is particularly useful to differentiate polymorphic forms of NAG-1 protein present in human serum samples. This antibody is useful in dual antibody immunometric assays (EIA). Expect bands in Western blots of approximately 14 and 28 kDa in size corresponding to NAG-1 monomer and dimer, respectively, using the appropriate cell lysate or extract. Specific conditions for reactivity should be optimized by the end user.</b>
Physical State	<b>Liquid (sterile filtered)</b>
Buffer	<b>0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2</b>
Immunogen	<b>This Protein A purified antibody was prepared by repeated immunizations with a synthetic peptide corresponding to a region near the amino terminal end of human NAG-1 protein. A residue of cysteine was added to facilitate coupling to KLH.</b>
Preservative	<b>0.01% (w/v) Sodium Azide</b>

**Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody - Additional Information**

**Gene ID 9518**

**Other Names**  
**9518**

**Purity**

This product was purified from concentrated tissue culture supernatant Protein A chromatography. This antibody specifically reacts with an H variant sequence of human NAG-1 protein from human tissues. A BLAST analysis was used to suggest partial reactivity with NAG-1 from chimpanzee and macaque based on a 92% homology. Cross-reactivity with NAG-1 from



href="http://www.uniprot.org/citations/37060902" target="\_blank">37060902</a>). The contribution of GDF15 to weight loss following metformin treatment is however limited and subject to discussion (PubMed:<a href="http://www.uniprot.org/citations/36001956" target="\_blank">36001956</a>). Produced in response to anticancer drugs, such as camptothecin or cisplatin, promoting nausea, vomiting and contributing to malnutrition (By similarity). Overproduced in many cancers, promoting anorexia in cancer (cachexia) (PubMed:<a href="http://www.uniprot.org/citations/32661391" target="\_blank">32661391</a>). Responsible for the risk of nausea and vomiting during pregnancy: high levels of GDF15 during pregnancy, mostly originating from the fetus, are associated with increased nausea and vomiting (PubMed:<a href="http://www.uniprot.org/citations/38092039" target="\_blank">38092039</a>). Maternal sensitivity to nausea is probably determined by pre-pregnancy exposure to GDF15, women with naturally high level of GDF15 being less susceptible to nausea than women with low levels of GDF15 before pregnancy (PubMed:<a href="http://www.uniprot.org/citations/38092039" target="\_blank">38092039</a>). Promotes metabolic adaptation in response to systemic inflammation caused by bacterial and viral infections in order to promote tissue tolerance and prevent tissue damage (PubMed:<a href="http://www.uniprot.org/citations/31402172" target="\_blank">31402172</a>). Required for tissue tolerance in response to myocardial infarction by acting as an inhibitor of leukocyte integrin activation, thereby protecting against cardiac rupture (By similarity). Inhibits growth hormone signaling on hepatocytes (By similarity).

#### Cellular Location

Secreted Note=Secreted in the plasma.

#### Tissue Location

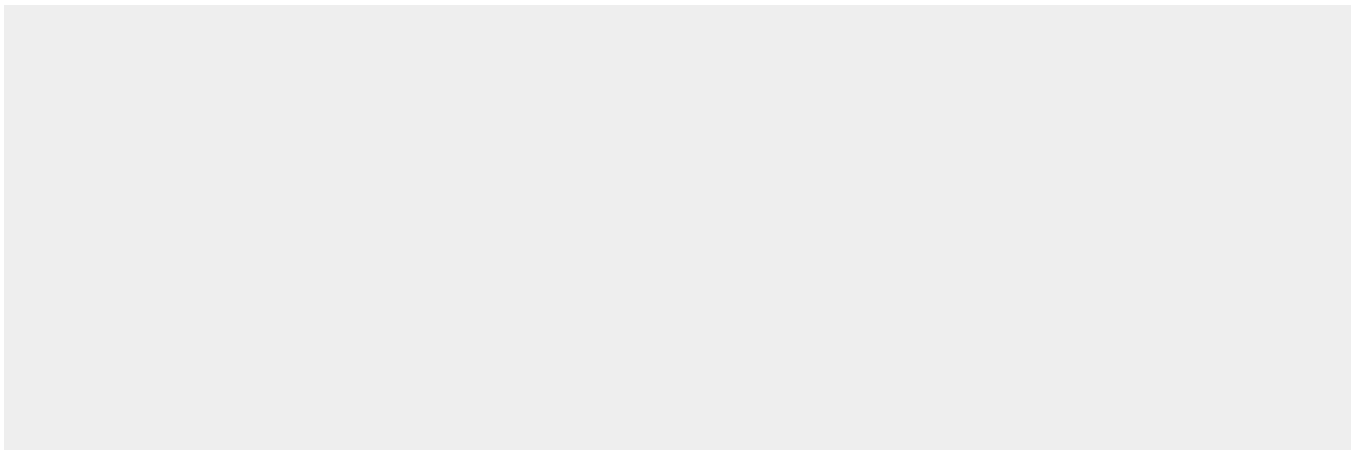
Detected in plasma (at protein level) (PubMed:28572090, PubMed:29046435). Highly expressed in placenta, with lower levels in prostate and colon and some expression in kidney (PubMed:37060902, PubMed:9348093).

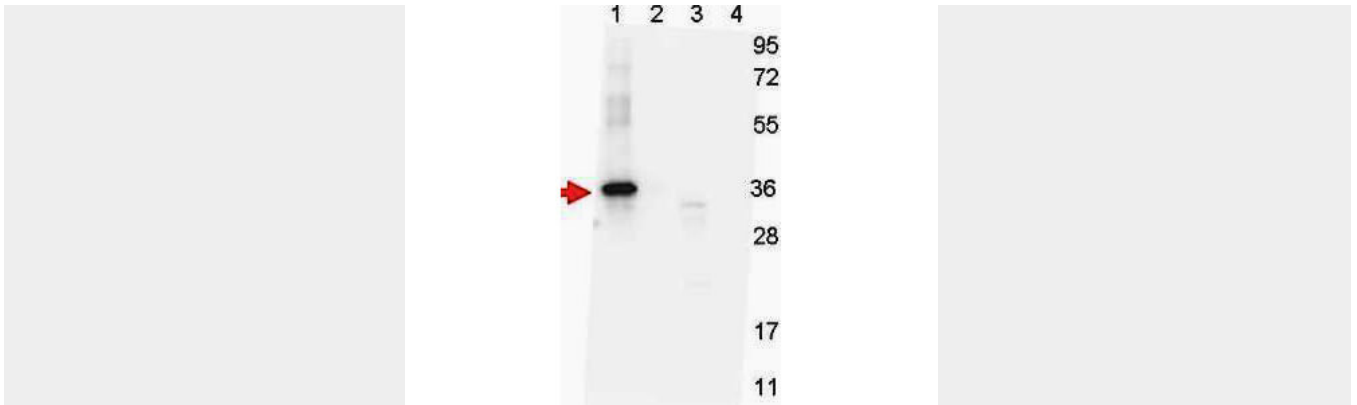
### Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody - Images





Western blot shows detection of recombinant NAG-1 protein present in *Pichia pastoris* whole cell lysates: lane 1 - yeast cell lysate expressing NAG-1 H variant with SUMO expression tag at 36 kDa; lane 2 - yeast cell lysate expressing NAG-1 D variant with SUMO expression tag at 36 kDa; lane 3 - yeast cell lysate expressing NAG-1 H variant; and lane 4 - yeast cell lysate expressing NAG-1 D variant. All lysates were run under reducing conditions. Primary antibody was used at a 1:1,000 dilution in TBS containing 1% BSA and 0.2% Tween, and reacted overnight at 4°C. For detection, a 1:40,000 dilution of peroxidase conjugated Gt-a-Mouse IgG secondary antibody (610-103-121) was used in Blocking Buffer for Fluorescent Western Blotting (MB-070) for 30 min at room temperature. Molecular weight estimation was made by comparison to prestained MW markers. Image was captured using the BioRad Versadoc™ 4000MP Imaging System.

#### **Anti-NAG-1 (H variant specific) (MOUSE) Monoclonal Antibody - Background**

Non-steroidal anti-inflammatory drug (NSAID) activated gene (NAG-1) is a member of the transforming growth factor-beta (TGF-beta) superfamily. NAG-1 is also known as Macrophage Inhibitory Cytokine-1 (MIC-1), Growth Differentiation Factor 15 (GDF15), Placental Bone Morphogenetic Protein (PLAB), or Prostate Derived Factor (PDF). NAG-1 is expressed in human placenta, prostate and colon. It possesses antitumorigenic and proapoptotic activities. NAG-1 expression is dramatically increased in inflammation, injury and malignancy. Increase of NAG-1 expression is a feature of many cancers including breast, colon, pancreas and prostate. In a number of studies, NAG-1 expression was increased by a number of NSAIDs. This increase in expression may correlate with the chemopreventive effect NSAIDs seem to have with certain cancers. NAG-1 expression is also induced by PPAR gamma ligands and by several dietary compounds such as conjugated linoleic acids (CLAs), naturally occurring fatty acids in ruminant food products, indoles, epicatechin gallate, and genistein. Induced expression of NAG-1 results in stimulation of apoptosis and inhibition of cell growth. Inhibition of NAG-1 induced expression by small interference RNA (siRNA) results in repression of induced apoptosis. NAG-1 expression is regulated by a numbers of transcription factors such as ERG-1 and Sp1. EGR-1 may be necessary for NSAID-induced NAG-1 expression. The study of expression of NAG-1 proteins, including variants, is important to define their potential role as serum biomarkers for cancer diagnosis, treatment monitoring, epidemiology study, and nutrition surveys.