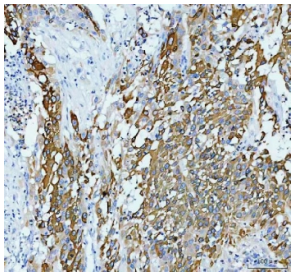
AGR2 Antibody / Anterior gradient protein 2 (R32653)

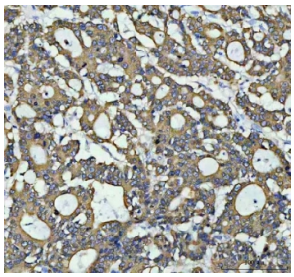
Catalog No.	Formulation	Size
R32653	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

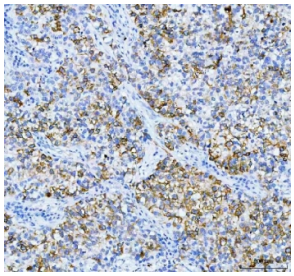
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O95994
Localization	Cytoplasm
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate
Limitations	This AGR2 antibody is available for research use only.



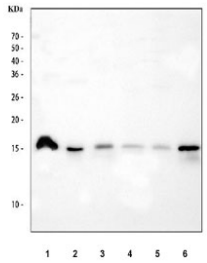
IHC staining of FFPE human bladder infiltrating urothelial carcinoma with squamous differentiation tissue with AGR2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



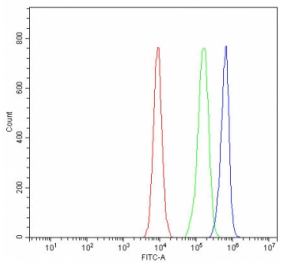
IHC staining of FFPE human colorectal adenocarcinoma tissue with AGR2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



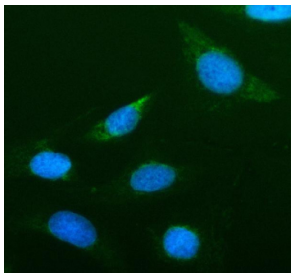
IHC staining of FFPE human non-small cell lung cancer tissue with AGR2 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



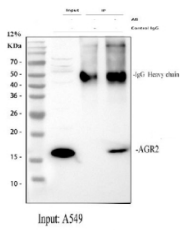
Western blot testing of 1) human T-47D, 2) human A549, 3) rat stomach, 4) rat small intestine, 5) mouse stomach and 6) mouse small intestine tissue lysate with AGR2 antibody at 0.5ug/ml. Expected molecular weight: 17-20 kDa.



Flow cytometry testing of fixed and permeabilized human Caco-2 cells with AGR2 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= AGR2 antibody.



Immunofluorescent staining of FFPE human U-2 OS cells with AGR2 antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Immunoprecipitation of Anterior gradient protein 2 from 500ug of human A549 whole cell lysate with 2ug of AGR2 antibody.

Description

AGR2 antibody targets Anterior gradient protein 2, encoded by the AGR2 gene. Anterior gradient protein 2 is a member of the protein disulfide isomerase family and functions primarily within the endoplasmic reticulum, where it contributes to protein folding and quality control. AGR2 contains a thioredoxin-like domain that supports its role in disulfide bond formation and stabilization of secreted and membrane-associated proteins. Although predominantly localized to the endoplasmic reticulum, AGR2 can also be detected in secretory pathways and, in some contexts, in extracellular compartments.

Functionally, Anterior gradient protein 2 plays an important role in the maturation and secretion of mucins and other glycoproteins. AGR2 is particularly critical for the proper folding of large, cysteine-rich secretory proteins, ensuring their stability before export from the endoplasmic reticulum. Through these activities, AGR2 supports epithelial cell differentiation and barrier function. An AGR2 antibody supports studies focused on protein folding mechanisms, secretory pathway regulation, and epithelial cell biology.

AGR2 expression is most prominent in secretory epithelial tissues, including the gastrointestinal tract, respiratory epithelium, pancreas, and prostate. It is closely associated with mucus-producing cells, where it contributes to normal mucin biosynthesis and secretion. Expression levels of AGR2 are tightly regulated under physiological conditions but can be altered during cellular stress, inflammation, or malignant transformation. This tissue-specific expression pattern highlights AGR2 as a marker of secretory epithelial cell function.

From a disease-relevance perspective, Anterior gradient protein 2 has been extensively studied in cancer biology. Elevated AGR2 expression has been reported in multiple epithelial-derived cancers, including breast, prostate, lung, pancreatic, and colorectal cancer. In these settings, AGR2 has been associated with tumor progression, altered cell adhesion, and resistance to cellular stress. AGR2 expression has also been linked to changes in mucin production and epithelial polarity, making it a molecule of interest in studies of tumor microenvironment and epithelial plasticity.

At the molecular level, AGR2 encodes a protein with an apparent molecular weight of approximately 17 to 21 kDa, although observed migration on SDS-PAGE can vary depending on redox state and post-translational modifications. The protein contains a conserved active-site motif typical of protein disulfide isomerases, supporting its enzymatic role in protein folding. An AGR2 antibody supports research applications focused on epithelial biology, secretory protein regulation, and cancer-associated cellular pathways, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the AGR2 antibody should be determined by the researcher.

Immunogen

Amino acids R21-L175 from the human protein were used as the immunogen for the AGR2 antibody.

Storage

After reconstitution, the AGR2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.