

AGR2 (6C5): sc-101211

BACKGROUND

AGR2 (anterior gradient protein 2), also known as AG2, GOB-4 or HAG-2, is a member of the anterior gradient homolog family. It is the human ortholog of XAG-2, the secreted *Xenopus laevis* anterior gradient protein. In *X. laevis*, AGR2 is involved in cement gland differentiation and neural marker gene expression. AGR2 is a secretory protein encoded by two different AGR2 transcripts. It interacts with LYPD3 and α -dystroglycan (DAG-1). AGR2 is ubiquitously expressed with upregulated expression in prostate cancer, breast cancer, lung cancer, renal carcinomas and endometrial carcinomas. AGR2 expression is positively correlated with that of the estrogen receptor (ER) and is negatively correlated with that of the epidermal growth factor receptor (EGFR). AGR2 may serve as a potential therapeutic marker for various cancers.

REFERENCES

- Huber, M., et al. 2004. Comparison of proteomic and genomic analyses of the human breast cancer cell line T47D and the antiestrogen-resistant derivative T47D-r. *Mol. Cell. Proteomics* 3: 43-55.
- Liu, D., et al. 2005. Human homologue of cement gland protein, a novel metastasis inducer associated with breast carcinomas. *Cancer Res.* 65: 3796-3805.

CHROMOSOMAL LOCATION

Genetic locus: AGR2 (human) mapping to 7p21.1; Agr2 (mouse) mapping to 12 A3.

SOURCE

AGR2 (6C5) is a mouse monoclonal antibody raised against recombinant AGR2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

AGR2 (6C5) is recommended for detection of AGR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for AGR2 siRNA (h): sc-61956, AGR2 siRNA (m): sc-61957, AGR2 shRNA Plasmid (h): sc-61956-SH, AGR2 shRNA Plasmid (m): sc-61957-SH, AGR2 shRNA (h) Lentiviral Particles: sc-61956-V and AGR2 shRNA (m) Lentiviral Particles: sc-61957-V.

Molecular Weight of AGR2: 18-21 kDa.

Positive Controls: AGR2 (h): 293 Lysate: sc-112951, AGR2 (m): 293T Lysate: sc-118272 or MCF7 whole cell lysate: sc-2206.

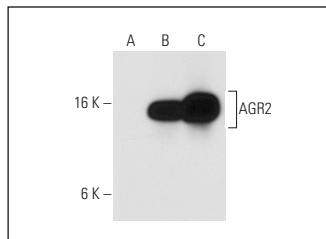
RESEARCH USE

For research use only, not for use in diagnostic procedures.

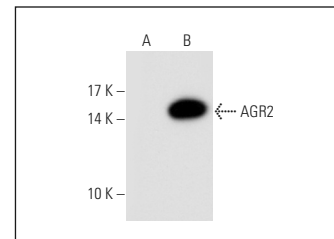
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



AGR2 (6C5): sc-101211. Western blot analysis of AGR2 expression in non-transfected 293: sc-110760 (A), human AGR2 transfected 293: sc-112951 (B) and MCF7 (C) whole cell lysates.



AGR2 (6C5): sc-101211. Western blot analysis of AGR2 expression in non-transfected: sc-117752 (A) and mouse AGR2 transfected: sc-118272 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Yu, H., et al. 2010. Interleukin-13 induces Mucin 5AC production involving Stat6/SPDEF in human airway epithelial cells. *Cell Commun. Adhes.* 17: 83-92.
- Trinh, H.V., et al. 2013. iTRAQ-based and label-free proteomics approaches for studies of human adenovirus infections. *Int. J. Proteomics* 2013: 581862.
- Chen, Y.T., et al. 2013. Anterior gradient 2: a novel sensitive tumor marker for metastatic oral cancer. *Cancer Lett.* 339: 270-278.
- Guo, H., et al. 2017. Tumor-secreted anterior gradient-2 binds to VEGF and FGF2 and enhances their activities by promoting their homodimerization. *Oncogene* 36: 5098-5109.
- Tiemann, K., et al. 2019. Loss of ER retention motif of AGR2 can impact mTORC signaling and promote cancer metastasis. *Oncogene* 38: 3003-3018.
- Worfolk, J.C., et al. 2019. Elucidation of the AGR2 interactome in esophageal adenocarcinoma cells identifies a redox-sensitive chaperone Hub for the quality control of MUC-5AC. *Antioxid. Redox Signal.* 31: 1117-1132.
- Sicari, D., et al. 2021. Reflux of endoplasmic reticulum proteins to the cytosol inactivates tumor suppressors. *EMBO Rep.* 22: e51412.
- Al-Shaibi, A.A., et al. 2021. Human AGR2 deficiency causes mucus barrier dysfunction and infantile inflammatory bowel disease. *Cell. Mol. Gastroenterol. Hepatol.* 12: 1809-1830.
- Wu, D., et al. 2022. Glutamine promotes O-GlcNAcylation of G6PD and inhibits AGR2 S-glutathionylation to maintain the intestinal mucus barrier in burned septic mice. *Redox Biol.* 59: 102581.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.