abcam

ab314020

Anti-GC-C antibody [2E5] - Human IgG1 (Chimeric)

Recombinant | Advanced Validation

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.03% Proclin 300 Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human GUCY2C. Database link P25092
Clone number	2E5
Purification technique	Affinity purification
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Species	Transfected cell line - Human
Dilution info	1/50 - 1/200
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

FuncS

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Target data

See full target information GUCY2C

Function	Guanylyl cyclase that catalyzes synthesis of cyclic GMP (cGMP) from GTP (PubMed:11950846, PubMed:1718270, PubMed:22436048, PubMed:22521417, PubMed:23269669). Receptor for the E.coli heat-stable enterotoxin; E.coli

enterotoxin markedly stimulates the accumulation of cGMP in mammalian cells expressing GUCY2C (PubMed:1680854, PubMed:1718270). Also activated by the endogenous peptides guanylin and uroguanylin (PubMed:8381596).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	GC-C also known as guanylate cyclase C is an enzyme with mass around 120 kDa expressed mainly in the intestinal epithelium. This membrane-bound receptor plays an important role in the regulation of fluid and electrolyte balance in the intestine. GC-C gets activated by its ligands including bacterial heat-stable enterotoxins as well as endogenous peptides like guanylin and uroguanylin. Upon activation GC-C catalyzes the conversion of GTP to cGMP thereby initiating a signaling cascade that affects ion transport in intestinal cells.
Biological function summary	GC-C is part of a signaling mechanism involved in maintaining fluid balance and gut homeostasis. The enzyme participates in the cGMP-mediated signaling pathway essential for modulating chloride and bicarbonate ion secretion leading

	to water loss into the intestinal lumen. GC-C does not work in isolation but cooperates with other molecules to facilitate these functions. Specifically it associates with ion transporters and channels influencing the enteric nervous system.
Pathways	GC-C functions within the cGMP pathway which is critical for intestinal fluid regulation. GC-C also connects with the Wnt signaling pathway an important metabolic relay influencing cell proliferation and differentiation. By producing cGMP GC-C influences down-stream proteins such as protein kinase G (PKG) and cystic fibrosis transmembrane conductance regulator (CFTR). These proteins play pivotal roles in maintaining the physiological processes in the intestine.
Associated diseases and disorders	GC-C relates to irritable bowel syndrome (IBS) and colorectal cancer. Overactivation of GC-C by bacterial toxins can lead to enterotoxigenic diarrhea common in IBS. Its role in colorectal cancer arises from dysregulated signaling pathways affecting cellular growth. Mutations and alterations in GC-C expression may contribute to cancer progression. Furthermore GC-C-related dysregulation can involve other proteins like E-cadherin which modulates cell adhesion in tumor pathways complicating disease dynamics.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

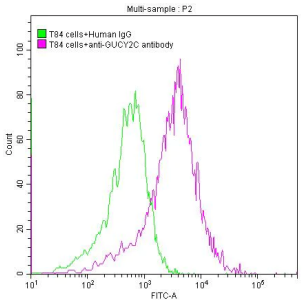
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

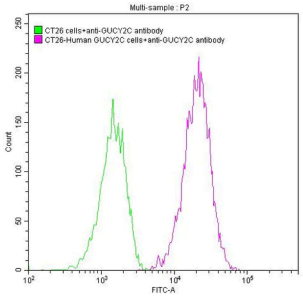
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



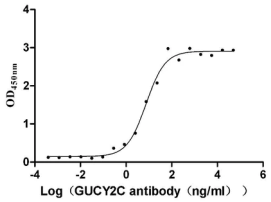
Flow Cytometry - Anti-GC-C antibody [2E5] - Human IgG1 (Chimeric) (ab314020)

T84 cells were stained with human IgG (green line) and ab314020 (pink line) (2µg/1x10E6cells), washed and then followed by FITC-conjugated anti-Human IgG Fc antibody and analyzed with flow cytometry.



Flow Cytometry - Anti-GC-C antibody [2E5] - Human IgG1 (Chimeric) (ab314020)

Untransfected CT26 cells (green line) and transfected human GUCY2C (GC-C) CT26 stable cells (pink line) were stained with ab314020 (2µg/1x10E6cells), washed and then followed by FITC-conjugated anti-Human IgG Fc antibody and analyzed with flow cytometry.



Functional Studies - Anti-GC-C antibody [2E5] - Human IgG1 (Chimeric) (ab314020)

The binding activity of human GC-C with ab314020. Activity: Measured by its binding ability in a functional ELISA. Immobilized human GC-C at 5 µg/mL can bind ab314020, the EC50is 5.630-9.996 ng/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.