abcam

BECKMAN COULTER

ab326124

SNv428 Anti-Glycogen synthase 1/GYS1 antibody [EP817Y]

Rabbit Recombinant Monoclonal GYS1 antibody - conjugated to SNv428.
Suitable for Flow Cyt(Intra) and reacts with Human samples.

This is a Beckman Coulter product distributed by Abcam

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	SNv428
Excitation/Emission	Ex: 405nm, Em: 428nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA, 0.02% Pluronic F-68
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP817Y
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information GYS1

Function Glycogen synthase participates in the glycogen biosynthetic process along with glycogenin and glycogen branching enzyme. Extends the primer composed of a few glucose units formed by glycogenin by adding new glucose units to it. In this context, glycogen synthase transfers the glycosyl residue from UDP-Glc to the non-reducing end of alpha-1,4-glucan.

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	+4°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.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

This is a Beckman Coulter product distributed by Abcam.

The SuperNova dye included in this product is provided under an intellectual property license from Beckman Coulter Life Sciences. As this product contains the SuperNova dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity).

Supplementary info

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

Activity summary	Glycogen synthase 1 (GYS1) also known as muscle glycogen synthase catalyzes the synthesis of glycogen from glucose. It adds glucose units from UDP-glucose to the non-reducing ends of glycogen chains facilitating glycogen elongation. The molecular mass of GYS1 is approximately 85 kDa. It is predominantly expressed in skeletal muscle tissue providing energy storage primarily in the form of glycogen. GYS1 is regulated through phosphorylation wherein it undergoes inactive to active conformational changes.
Biological function summary	This enzyme plays a critical role in the energy storage mechanism of muscle tissues. GYS1 functions as a part of the glycogen synthase complex interacting with various glycogen-associated proteins to modulate its activity. These interactions control the enzyme's affinity for its substrate and its susceptibility to regulatory signals like phosphorylation affecting glycogen synthesis efficiency. Through its activity GYS1 ensures a readily available reserve of glucose in muscle tissues for rapid energy production when required.
Pathways	Glycogen synthase 1 is a central component of the glycogen metabolism pathway. It acts alongside other enzymes such as glycogen phosphorylase which catalyzes glycogen breakdown. The balance between GYS1 and glycogen phosphorylase determines the rate of glycogen turnover within cells. GYS1 is further regulated by the insulin signaling pathway where insulin promotes glycogen synthesis by altering GYS1 activity alongside proteins like AKT influencing glucose homeostasis and energy management in tissues.
Associated diseases and disorders	Dysregulation of GYS1 activity often associates with glycogen storage diseases notably Type 0 where deficiencies in glycogen storage lead to episodes of low blood sugar and reduced exercise capacity. Furthermore aberrations in GYS1 function contribute to insulin resistance and Type 2 diabetes conditions linked with impaired glucose metabolism. Altered GYS1 activity impacts proteins like glycogen phosphorylase affecting overall glycogen metabolism balance and contributing to metabolic disorders.

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

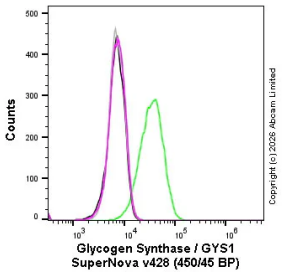
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - SNv428 Anti-Glycogen synthase 1/GYS1 antibody [EP817Y] (ab326124)

Glycogen synthase 1/GYS1 Flow Cytometry (Intracellular) staining using rabbit Anti-Glycogen synthase 1/GYS1 antibody

Flow cytometry overlay histogram showing wild-type HeLa (green line) and GYS1 knockout HeLa stained with ab326124 (magenta line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab326124) (1x 106 in 100µl at 0.2 µg/ml (1/1000)) for 30min at 22°C.Unstained control in HeLa WT cells (black line) and HeLa-GYS1 KO cells (grey line) was also included. Acquisition of >5000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter.This antibody gave a positive signal in wild-type Jurkat fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

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