abcam

BECKMAN COULTER

ab326142

SNv428 Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668]

Rabbit Recombinant Monoclonal Glucose 6 Phosphate Dehydrogenase 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

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	EPR20668
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	1/200
Notes	Use of the SuperNova Staining Buffer (ab327075) is recommended when your multicolor staining cocktail contains more than one SuperNova/polymer dye antibody conjugate.

Target data

See full target information Glucose-6-phosphate 1-dehydrogenase

Function	Catalyzes the rate-limiting step of the oxidative pentose-phosphate pathway, which represents a route for the dissimilation of carbohydrates besides glycolysis. The main function of this enzyme is to provide reducing power (NADPH) and pentose phosphates for fatty acid and nucleic acid synthesis. Also catalyzes the conversion of NAADPH, which is produced by enzymes such as DUOX1, DUOX2 and NOX5 from NAADP and promotes Ca(2+) signaling during T cell activation, back to NAADP (PubMed:34784249).

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

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.

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.

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	Glucose 6 Phosphate Dehydrogenase also known as G6PD or G6P dehydrogenase plays an important role in the pentose phosphate pathway catalyzing the conversion of glucose 6-phosphate to 6-phosphoglucono-Δ-lactone while producing NADPH from NADP+. G6PD with a molecular mass of approximately 59 kDa is expressed in various tissues with high levels found in red blood cells liver and adrenal glands. This enzyme is vital for protecting cells from oxidative damage by supplying reductive capacity.
Biological function summary	Glucose 6-phosphate dehydrogenase is essential for maintaining cellular redox balance especially in cells lacking mitochondria like red blood cells. It functions as part of a monomer which can dimerize depending on the cellular needs and conditions. The activity of G6PD directly affects the production of NADPH which is necessary for the biosynthesis of nucleic acids and lipids and for maintaining reduced glutathione levels therefore sustaining the antioxidant capacity of the cell.
Pathways	Glucose 6-phosphate dehydrogenase is a pivotal enzyme in the oxidative phase of the pentose phosphate pathway which provides ribose 5-phosphate for nucleotide synthesis and NADPH for reductive biosynthetic reactions. G6PD connects with other enzymes in the pathway such as 6-phosphogluconate dehydrogenase contributing to the regulation of cellular metabolic needs. Its function is tightly linked to glucose metabolism and indirectly influences glycolytic processes.
Associated diseases and disorders	Alterations in glucose 6-phosphate dehydrogenase activity lead to conditions such as G6PD deficiency which can cause hemolytic anemia when individuals are exposed to certain drugs infections or foods. This enzyme's deficiency is one of the most common enzymatic disorders in humans and is triggered by genetic mutations affecting G6PD function. Moreover G6PD has implications in cancer biology as its activity influences the proliferation and survival of cancer cells alongside other proteins like TP53 and NF-κB which are involved in cellular stress responses.

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.

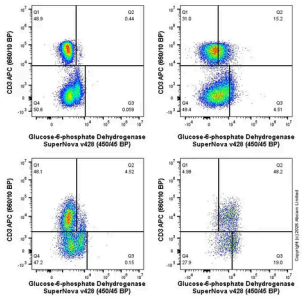
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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1 product image



Flow Cytometry (Intracellular) - SNv428 Anti-Glucose 6 Phosphate Dehydrogenase antibody [EPR20668] (ab326142)

Glucose 6 Phosphate Dehydrogenase Flow Cytometry (Intracellular) staining of flow cyt: hu pbmc using rabbit Anti-Glucose 6 Phosphate Dehydrogenase antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326142 (right) or FMO control (left). The cells were fixed and permeabilised using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG, 10% normal goat serum and BD Pharmingen™ MonoBlock™ Leukocyte Staining Buffer (1/10) to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab326142) (1x 106 in 100µl at 1 µg/ml (1/200)) for 30min on ice. The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter.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'.