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ACR001PT Monoclonal Antibody to GAPDH (Loading Control) - Purified

Alternate names:	CDABP0047, GAPD, Glyceraldehyde-3-Phosphate Dehydrogenase
Quantity:	20 µg
Concentration:	6.7 mg/ml
Background:	Glyceraldehyde 3 phosphate dehydrogenase (GAPDH) is well known as one of the key enzymes involved in glycolysis. Besides its functioning as a glycolytic enzyme in cytoplasm, recent evidence suggest that mammalian GAPDH is also involved in a great number of intracellular proceses such as membrane fusion, microtubule bundling, phosphotransferase activity, nuclear RNA export, DNA replication, and DNA repair. During the last decade a lot of findings appeared concerning the role of GAPDH in different pathologies including prostate cancer progression, programmed neuronal cell death, age-related neuronal diseases, such as Alzheimer's and Huntington's disease. GAPDH is constitutively expressed in almost all tissues at high levels, therefore becoming the marker of choice when a loading control in Western blotting is required.
Uniprot ID:	P04406
NCBI:	NP_002037.2
GeneID:	2597
Host / Isotype:	Mouse / IgG1
Recommended Isotype Controls:	SM10P (for use in human samples), SM20P (for use in rat samples), AM03095PU-N
Clone:	6C5
Immunogen:	Rabbit GAPDH. **Remarks:** Hybridoma is derived from hybridization of Sp2/0 myeloma cells with spleen cells of Balb/c mice.
Format:	**State:** Liquid purified IgG fraction **Purification:** Protein A Sepharose Chromatography **Buffer System:** PBS, pH 7.4 **Preservatives:** 0.09% Sodium Azide
Applications:	**GAPDH Immunoassays.** **Western blot** (e.g. as Loading Control). **Immunocytochemistry.** Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody reacts with GAPDH.
Species Reactivity:	**Tested:** Human, Porcine, Canine, Rabbit, Cat, Rat, Mouse and Fish. **Does not** react with Bovine and Goat.

Storage:

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

Product Citations:

Purchased from Acris:

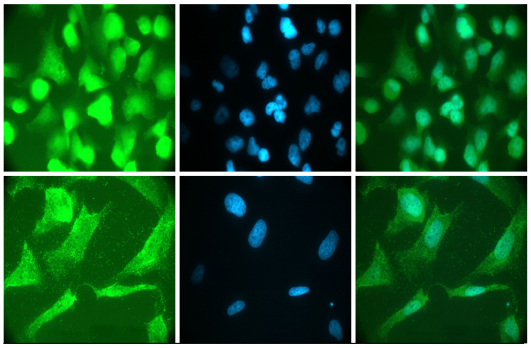
1. Kadow S, Jux B, Zahner SP, Wingerath B, Chmill S, Clausen BE, et al. Aryl hydrocarbon receptor is critical for homeostasis of invariant gammadelta T cells in the murine epidermis. J Immunol. 2011 Sep 15;187(6):3104-10. doi: 10.4049/jimmunol.1100912. Epub 2011 Aug 15. PubMed PMID: 21844385.
2. Jux B, Kadow S, Esser C. Langerhans cell maturation and contact hypersensitivity are impaired in aryl hydrocarbon receptor-null mice. J Immunol. 2009 Jun 1;182(11):6709-17. doi: 10.4049/jimmunol.0713344. PubMed PMID: 19454665.
3. Salameh A, Krautblatter S, Baessler S, Karl S, Rojas Gomez D, Dhein S, et al. Signal transduction and transcriptional control of cardiac connexin43 up-regulation after alpha 1-adrenoceptor stimulation. J Pharmacol Exp Ther. 2008 Jul;326(1):315-22. doi: 10.1124/jpet.108.136663. Epub 2008 Apr 29. PubMed PMID: 18445782.
4. Wachi T, Cornell B, Marshall C, Zhukarev V, Baas PW, Toyo-Oka K. Ablation of the 14-3-3gamma Protein Results in Neuronal Migration Delay and Morphological Defects in the Developing Cerebral Cortex. Dev Neurobiol. 2015 Aug 22. doi: 10.1002/dneu.22335. PubMed PMID: 26297819.
5. Columbus DA, Steinhoff-Wagner J, Suryawan A, Nguyen HV, Hernandez-Garcia A, Fiorotto ML, et al. Impact of prolonged leucine supplementation on protein synthesis and lean growth in neonatal pigs. Am J Physiol Endocrinol Metab. 2015 Sep 15;309(6):E601-10. doi: 10.1152/ajpendo.00089.2015. Epub 2015 Aug 4. PubMed PMID: 26374843.
6. Menzel, L;Kleber, L;Friedrich, C;Hummel, R;Dangel, L;Winter, J;Schmitz, K;Tegeder, I;Schäfer, MK. Progranulin protects against exaggerated axonal injury and astrogliosis following traumatic brain injury.Glia 2016. PubMed PMID: 27778404.
7. Rodriguez Garzotto, AA. Tratamiento con heparina tópica en pacientes con síndrome eritrosidestésico palmo plantar asociado a capecitabina y estudio de su mecanismo fisiopatológico. Thesis 2007. http://eprints.ucm.es/41540/
8. Hu, JK;Du, W;Shelton, SJ;Oldham, MC;DiPersio, CM;Klein, OD. An FAK-YAP-mTOR Signaling Axis Regulates Stem Cell-Based Tissue Renewal in Mice. Cell Stem Cell 2007. PubMed PMID: 28457749.
9. Maler, MD;Nielsen, PJ;Stichling, N;Cohen, I;Ruzsics, Z;Wood, C;Engelhard, P;Suomalainen, M;Gyory, I;Huber, M;Müller-Quernheim, J;Schamel, WWA;Gordon, S;Jakob, T;Martin, SF;Jahnen-Dechent, W;Greber, UF;Freudenberg, MA;Fejer, G. Key Role of the Scavenger Receptor MARCO in Mediating Adenovirus Infection and Subsequent Innate Responses of Macrophages. MBio 2017. 8, 4. PubMed PMID: 28765216.

General Readings:

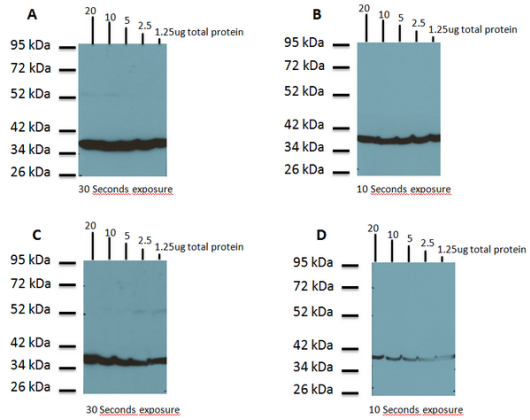
1. Kots AYa, Skurat AV, Sergienko EA, Bulargina TV, Severin ES. Nitroprusside stimulates the cysteine-specific mono(ADP-ribosylation) of glyceraldehyde-3-phosphate dehydrogenase from human erythrocytes. FEBS Lett. 1992 Mar 23;300(1):9-12. PubMed PMID: 1547895.

Pictures:

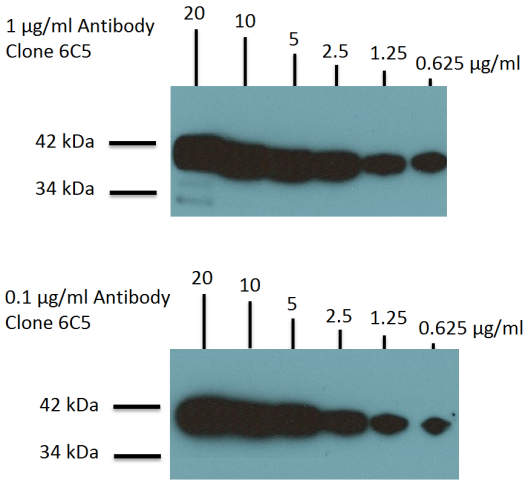
Staining of Rh30 rhabdomyosarcoma (upper panels) and SJSA-1 Ewing's sarcoma cells (lower panels) for GAPDH with ACR001P anti-GAPDH monoclonal antibody (left panels). FITC conjugated secondary antibody. The middle panels show DAPI staining of the cell nuclei. The right panels show merged images.



Western Blotting for GAPDH on HUVEC cell lysate using anti-GAPDH monoclonal antibody Cat.-No ACR001P at 2 µg/ml (A and B) and 0.5 µg/ml (C and D).



Western Blotting for GAPDH on Rat Brain lysates using anti-GAPDH monoclonal antibody Cat.-No ACR001P at 1 µg/ml (Top) and 0.1 µg/ml (Bottom).



Immunoprecipitation of GAPDH from rat heart extract using anti-GAPDH MAb 6C5: Mixture of protein A-Sepharose with anti-GAPDH MAbs and tissue extract was incubated for 30 min at room temperature and precipitated by centrifugation. Pellet was washed with PBS, suspended in reducing electrophoresis sample buffer and heated for 5 minutes at 100ºC.
After centrifugation supernatant was loaded on gel and proteins were separated by SDS electrophoresis.
Track 1: Human GAPDH (1 µg).
Track 2: GAPDH immunoprecipitated from rat heart tissue extract.
Track 3: Only MAb 6C5 (A) or 4G5 (B) preincubated with Protein A Sepharose.
Track 4: Only Protein A Sepharose.