Datasheet for ABIN366532

HIF1A ELISA Kit

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Overview

Quantity:	96 tests
Target:	HIF1A
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	For the quantitative determination of human hypoxia-inducible factor 1alpha (HIF-1alpha) concentrations in serum, plasma, tissue homogenates.
Sample Type:	Serum, Plasma, Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This assay has high sensitivity and excellent specificity for detection of human HIF-1alpha.
Cross-Reactivity (Details):	Limited by current skills and knowledge, it is impossible for us to complete the cross-reactivity detection between the target antigen and all analogues for other species. Therefore, cross reaction may still exist.
Sensitivity:	15.6 pg/mL
Components:	• Assay plate (12 × 8 coated Microwells)

Product Details

- Standard (freeze dried)
- Biotin-antibody (100 × concentrate)
- HRP-avidin (100 × concentrate)
- Biotin-antibody Diluent
- HRP-avidin Diluent
- Sample Diluent
- Wash Buffer (25 × concentrate)
- TMB Substrate
- Stop Solution
- Adhesive Strip (for 96 wells)
- Instruction manual

Target Details

Target:	HIF1A
Alternative Name:	hypoxia-inducible factor 1 (HIF1A Products)
Background:	Synonyms: HIF-1alpha, HIF1, HIF1-ALPHA, MOP1, PASD8, bHLHe78, ARNT interacting protein|hypoxia-inducible factor 1 alpha isoform I.3|hypoxia-inducible factor 1, alpha subunit|hypoxia-inducible factor 1, alpha
HGNC:	4910
UniProt:	Q16665
Pathways:	Positive Regulation of Peptide Hormone Secretion, Regulation of Hormone Metabolic Process, Regulation of Hormone Biosynthetic Process, Cellular Response to Molecule of Bacterial Origin, Carbohydrate Homeostasis, Transition Metal Ion Homeostasis, Tube Formation, Regulation of Carbohydrate Metabolic Process, Signaling Events mediated by VEGFR1 and VEGFR2, VEGFR1 Specific Signals, Warburg Effect

Application Details

Application Notes:

- The supplier is only responsible for the kit itself, but not for the samples consumed during the assay. The user should calculate the possible amount of the samples used in the whole test. Please reserve sufficient samples in advance.
- Samples to be used within 5 days may be stored at 2-8°C, otherwise samples must be stored at -20°C (≤ 1 month) or -80°C (≤ 2 months) to avoid loss of bioactivity and contamination.
- Grossly hemolyzed samples are not suitable for use in this assay.
- If the samples are not indicated in the manual, a preliminary experiment to determine the validity of the kit is necessary.
- Please predict the concentration before assaying. If values for these are not within the range

	of the standard curve, users must determine the optimal sample dilutions for their particular experiments. • Tissue or cell extraction samples prepared by chemical lysis buffer may cause unexpected ELISA results due to the impacts of certain chemicals. • Owing to the possibility of mismatching between antigens from another resource and antibodies used in this supplier's kits (e.g., antibody targets conformational epitope rather than linear epitope), some native or recombinant proteins from other manufacturers may not be recognized by this supplier's products. • Influenced by factors including cell viability, cell number and cell sampling time, samples from cell culture supernatant may not be recognized by the kit. • Fresh samples without long time storage are recommended for the test. Otherwise, protein degradation and denaturalization may occur in those samples and finally lead to wrong results.
Comment:	Detection wavelength: 450 nm Information on standard material: Depending on the antigen to be detected, standards can be either native or recombinant protein. The recombinant proteins are being expressed in CHO cells in most cases. Please inquire for more information. The formulation of auxiliary material in the standard is considered proprietary information, however it does not contain any poisonous substance. Proclin 300 (1:3000) is used as preservative. Information on reagents: In most cases the stop solution provided is 1 N H2SO4. The formulation of wash solution is proprietary information. None of the components contain (sodium) azide, thimerosal, 2-mercaptoethanol (2-ME) or any other poisonous materials. For the sandwich method kits, the sample diluent, antibody diluent, enzyme diluent and standard all contain BSA. Information on antibodies: The antibodies provided in different kits vary in regards to clonality and host. Some antibodies are affinity purified, some are Protein A
Sample Volume:	100 µL
Assay Time:	1 - 4.5 h
Plate:	Pre-coated
Protocol:	This assay employs the quantitative sandwich enzyme immunoassay technique. Antibody specific for HIF-1alpha has been pre-coated onto a microplate. Standards and samples are

	pipetted into the wells and any HIF-1alpha present is bound by the immobilized antibody. After removing any unbound substances, a biotin-conjugated antibody specific for HIF-1alpha is added to the wells. After washing, avidin conjugated Horseradish Peroxidase (HRP) is added to the wells. Following a wash to remove any unbound avidin-enzyme reagent, a substrate solution is added to the wells and color develops in proportion to the amount of HIF-1alpha bound in the initial step. The color development is stopped and the intensity of the color is measured.
Reagent Preparation:	• **Biotin-antibody (1×)** - Centrifuge the vial before opening. Biotin-antibody requires a 100-fold dilution. The suggested dilution is 10μL of Biotin-antibody + 990μL of Biotin-antibody Diluent. • **HRP-avidin (1×)** - Centrifuge the vial before opening. HRP-avidin requires a 100-fold dilution. The suggested dilution is 10μL of HRP-avidin + 990μL of HRP-avidin Diluent. • **Wash Buffer (1×)** - If crystals have formed in the concentrate, warm up to room temperature and mix gently until the crystals have completely dissolved. Dilute 20mL of Wash Buffer Concentrate (25×) into deionized or distilled water to prepare 500mL of Wash Buffer (1×). • **Standard** - Centrifuge the standard vial at 6000-10000rpm for 30s. Reconstitute the Standard with 1ml of Sample Diluent. Do not substitute other diluents. This reconstitution produces a stock solution. Mix the standard to ensure complete reconstitution and allow the standard to sit for a minimum of 15 minutes with gentle agitation prior to making dilutions. Pipette 250μL of Sample Diluent into each tube. Use the stock solution to produce a 2-fold dilution series. Mix each tube thoroughly before the next transfer. The undiluted Standard serves as the high standard. Sample Diluent serves as the zero standard (0ng/mL). Note: • Kindly use graduated containers to prepare the reagent. Please don't prepare the reagent directly in the Diluent vials provided in the kit. • Bring all reagents to room temperature (18-25°C) before use for 30 min. • Prepare fresh standard for each assay. Use within 4 hours and discard after use. • Making serial dilution in the wells directly is not permitted. • Please carefully reconstitute Standards according to the instruction. Avoid foaming and mix gently until the crystals have completely dissolved. To minimize imprecision caused by pipetting, use small volumes and ensure that pipettors are calibrated. It is recommended to suck more than 10μL when pipetting. • It is recommended to use distilled water to prepare reagents and samples. Using contaminated water or container for reagent preparation will influence detection result.
Assay Precision:	Intra-assay precision (precision within an assay): Three samples of known concentration were tested twenty times on one plate to assess precision. Inter-assay precision (precision between assays): Three samples of known concentration were

Application Details

	tested in twenty assays to assess precision. • Intra-assay: CV% less than 8% • Inter-assay: CV% less than 10%
Restrictions:	For Research Use only

Handling

Precaution of Use:	The Stop Solution provided with this kit is an acid solution. Wear eye, hand, face and clothing protection when using this material.
Handling Advice:	• The kit should not be used beyond the expiration date on the kit label. • Do not mix or substitute reagents with those from other lots or sources. • If samples generate values higher than the highest standard, dilute the samples with Sample Diluent and repeat the assay. • Any variation in Sample Diluent, operator, pipetting technique, washing technique, incubation time/temperature and kit age can cause variation in binding. • This assay is designed to eliminate interference by soluble receptors, binding proteins and other factors present in biological samples. Until all factors have been tested in the Immunoassay, the possibility of interference cannot be excluded.
Storage:	4 °C/-20 °C
Storage Comment:	For unopened kit: All the reagents should be kept according to the labels on vials.
Expiry Date:	6 months

Publications

Product cited in:	Jing, Chen, Huang, Wang, An, Cheng, Zhang: "MiR-15a expression analysis in non-small cell lung cancer A549 cells under local hypoxia microenvironment." in: **European review for medical and pharmacological sciences**, Vol. 21, Issue 9, pp. 2069-2074, (2018) (PubMed). Savarino, Fotia, Roncuzzi, Greco, Cadossi, Baldini, Giannini: "Does chronic raise of metal ion levels induce oxidative DNA damage and hypoxia-like response in patients with metal-on-metal hip resurfacing?" in: **Journal of biomedical materials research. Part B, Applied biomaterials**, Vol. 105, Issue 2, pp. 460-466, (2015) (PubMed). Padmini, Tharani: "Differential expression of HO-1 and CYP1A2 during up-regulation of ERK in stressed fish hepatocytes." in: **Environmental monitoring and assessment**, Vol. 187, Issue 1, pp. 4147, (2014) (PubMed).

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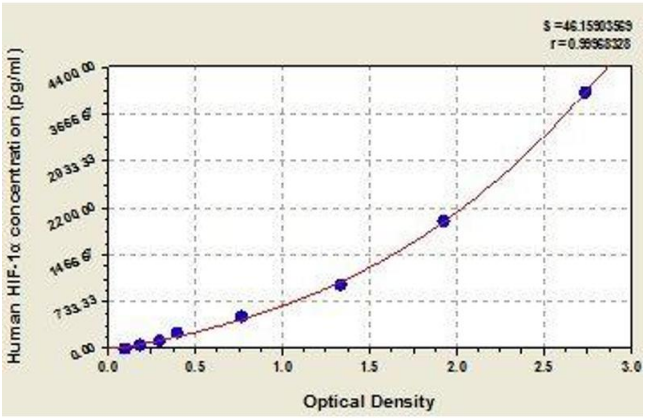
Publications

Jiang, Tang, Guo, Jiao: "The role of insulin-like growth factor I and hypoxia inducible factor 1α in vascular endothelial growth factor expression in type 2 diabetes." in: **Annals of clinical and laboratory science**, Vol. 43, Issue 1, pp. 37-44, (2013) (PubMed).

Ece, Cigdem, Yuksel, Ahmet, Hakan, Oktay: "Use of oral antidiabetic drugs (metformin and pioglitazone) in diabetic patients with breast cancer: how does it effect serum Hif-1 alpha and 8Ohdg levels?" in: **Asian Pacific journal of cancer prevention : APJCP**, Vol. 13, Issue 10, pp. 5143-8, (2013) (PubMed).

There are more publications referencing this product on: Product page

Images



ELISA

Image 1. Typical standard curve