

α -KGD (E-15): sc-49591

BACKGROUND

The α -ketoglutarate dehydrogenase (α -KGD) complex is a multienzyme complex which localizes to the mitochondrial matrix and consists of three protein subunits: α -ketoglutarate dehydrogenase, also designated α -KGD, E1k or oxoglutarate dehydrogenase (OGDH); dihydrolipoyl succinyltransferase (E2k or DLST); and dihydrolipoyl dehydrogenase (E3). The α -KGD subunit of the α -KGD complex catalyzes the conversion of α -ketoglutarate to succinyl-CoA and CO₂, an essential reaction of the tricarboxylic acid cycle. A deficiency in α -KGD results in hypotonia, metabolic acidosis, hyperlactatemia immediately after birth, and neurologic deterioration resulting in death at about 30 months of age. Low molar ratios of ketone bodies in plasma of neonates with congenital lactic acidosis are proposed indicators of tricarboxylic acid cycle dysfunction.

REFERENCES

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- Lino, M., et al. 2005. Tubulointerstitial nephritis and Fanconi syndrome in primary biliary cirrhosis. *Am. J. Kidney Dis.* 46: 41-46.
- Strumilo, S., et al. 2005. Short-term regulation of the α -KGD complex by energy-linked and some other effectors. *Biochemistry* 70: 726-729.
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CHROMOSOMAL LOCATION

Genetic locus: OGDH (human) mapping to 7p13; Ogdh (mouse) mapping to 11 A1.

SOURCE

α -KGD (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of α -KGD of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49591 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α -KGD (E-15) is recommended for detection of α -KGD of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α -KGD (E-15) is also recommended for detection of α -KGD in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for α -KGD siRNA (h): sc-60105, α -KGD siRNA (m): sc-60106, α -KGD shRNA Plasmid (h): sc-60105-SH, α -KGD shRNA Plasmid (m): sc-60106-SH, α -KGD shRNA (h) Lentiviral Particles: sc-60105-V and α -KGD shRNA (m) Lentiviral Particles: sc-60106-V.

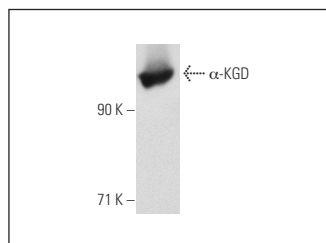
Molecular Weight of α -KGD: 113 kDa.

Positive Controls: α -KGD (m): 293T Lysate: sc-124905, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

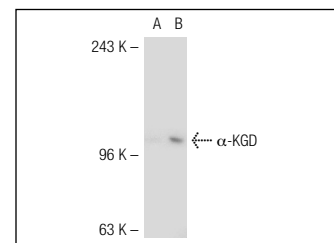
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



α -KGD (E-15): sc-49591. Western blot analysis of α -KGD expression in mouse heart tissue extract.



α -KGD (E-15): sc-49591. Western blot analysis of α -KGD expression in non-transfected: sc-117752 (A) and mouse α -KGD transfected: sc-124905 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.