

IGF1 Polyclonal Antibody

Catalog NumberPA1-130

Product data sheet

Details		Species Reactivity	
Size	200 µg	Species reactivity	Human
Host/Isotope	Rabbit / IgG	Tested Applications	
Class	Polyclonal	ELISA (ELISA)	1 µg/mL
Type	Antibody	Western Blot (WB)	1:500-1:2,000
Immunogen	GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Conjugate	Unconjugated		
Form	Liquid		
Concentration	1 mg/mL		
Purification	Protein G		
Storage buffer	PBS		
Contains	no preservative		
Storage Conditions	-20°C		

**Product specific information**

PA1-130 has been successfully used as a detection antibody in a sandwich ELISA with Product # MA1-088 as the coating antibody.

**Background/Target Information**

IGF1 (Insulin-like growth factor-1) is structurally and functionally related to insulin but has a much higher growth-promoting activity. A variety of cellular responses are induced by IGF1, including cell proliferation, differentiation, migration, and survival. Further, IGF1 is a polypeptide growth factor that stimulates the proliferation of a wide range of cell types in muscle, bone, and cartilage tissue. IGF1 stimulates glucose transport in rat bone-derived osteoblastic (PyMS) cells and is effective at much lower concentrations than insulin, not only regarding glycogen and DNA synthesis but also with regards to enhancing glucose uptake. In circulation, IGFs are predominantly bound to binding proteins (IGFBPs) which prolong the half-life of the IGFs and play a role in delivering them to target tissues. IGF-I is known as one of the most potent activators of the AKT signaling pathway which is known to be a stimulator of proliferation and an inhibitor of programmed cell death. Moreover, mature human IGF-I is 100% homologous with bovine and porcine proteins. Low levels of IGF1 have been linked to Alzheimer's disease. IGF1 is processed from a precursor, bound by a specific receptor, and secreted. Defects in the IGF1 gene are a cause of insulin-like growth factor 1 deficiency and several transcript variants encoding different isoforms have been found.

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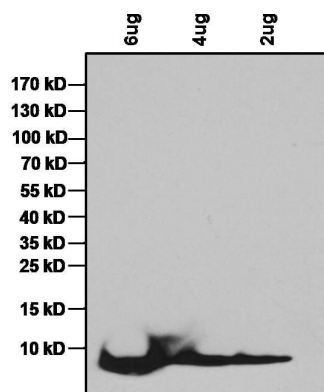
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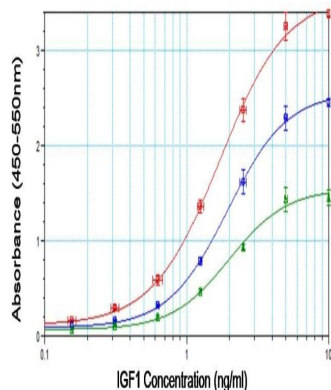
### IGF1 Antibody (PA1-130) in WB

Western blot analysis of human IGF1 was performed by loading the indicated amounts of recombinant human IGF1 protein per well onto a 4-20% Tris-HCl polyacrylamide gel. Proteins were transferred to a PVDF membrane and blocked with StartingBlock (TBS) Blocking Buffer (Product # 37542) for at least 1 hour. The membrane was probed with an IGF1 polyclonal antibody (Product # PA1-130) at a concentration of 1 µg/mL overnight at 4°C on a rocking platform, washed in TBS-0.1%Tween-20, and probed with a goat anti-rabbit IgG-HRP secondary antibody (Product # 31460) at a dilution of 1:10000 for at least 1 hour. Chemiluminescent detection was performed using SuperSignal West Pico (Product # 34080).



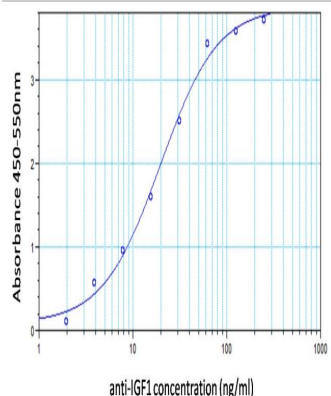
### IGF1 Antibody (PA1-130) in ELISA

Sandwich ELISA analysis of an anti-human IGF1 polyclonal antibody (Product # PA1-130) was performed by loading 100 µL per well of antibody (Product # MA1-088) at a concentration of 1 µg/mL overnight at room temperature. The plate was washed 3 times with ELISA Wash Buffer (Product # N503), and 100 µL of recombinant human IGF1 was added to wells in duplicate at 10, 5, 2.5, 1.25, 0.625, 0.312 and 0 ng/mL concentrations and the samples were incubated for 2 hours at room temperature. The plate was washed, then incubated with 100 µL per well of an IGF1 polyclonal antibody (Product # PA1-130), biotinylated using EZ-Link Sulfo-NHS-LC-Biotinylation Kit (Product # 21435). The biotinylated antibody was loaded at a concentration of 2.0 µg/mL (red line), 1.0 µg/mL (blue line), and 0.5 µg/mL (green line) for 1 hour at room temperature, followed by 100 µL per well of Ultra Streptavidin-HRP (Product # N504) at a dilution of 1:10,000 for 30 minutes at room temperature. Detection was performed by adding 100 µL of 1-Step Ultra TMB substrate (Product # 34028) per well and incubating for 20 minutes at room temperature in the dark. The plate was then stopped with 100 µL per well of 0.16M sulfuric acid. Absorbances were read on a spectrophotometer at 450-550 nm.



### IGF1 Antibody (PA1-130) in ELISA

Direct ELISA analysis of an anti-human IGF1 polyclonal antibody (Product # PA1-130) was performed by coating wells of a plate with recombinant IGF1 protein at a concentration of 2 µg/mL overnight at 4°C. The plate was washed 3 times with ELISA Wash Buffer (Product # N503), and 100 µL of an IGF1 polyclonal antibody (Product # PA1-130) was added to wells in duplicate at 2000, 1000, 500, 250, 125, 62.5, 31.25, 15.6, 7.8, 3.9, 1.9, and 0 ng/mL concentrations and the samples were incubated for 2 hours at room temperature. The plate was washed, then incubated with 100 µL per well of an HRP-conjugated goat anti-rabbit IgG secondary antibody (Product # 31460) at a dilution of 1:10,000 for 1 hour at room temperature, and washed again with ELISA Wash Buffer. The plate was developed by incubating 100 µL per well of 1-Step Ultra TMB substrate (Product # 34028) per well and incubating for 10 minutes at room temperature in the dark. The reaction was stopped with 100 µL per well of 0.16M sulfuric acid. Absorbances were read on a spectrophotometer at 450-550 nm.



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