

Product datasheet for **TP317863M**

HNF 4 alpha (HNF4A) (NM_000457) Human Recombinant Protein

Product data:

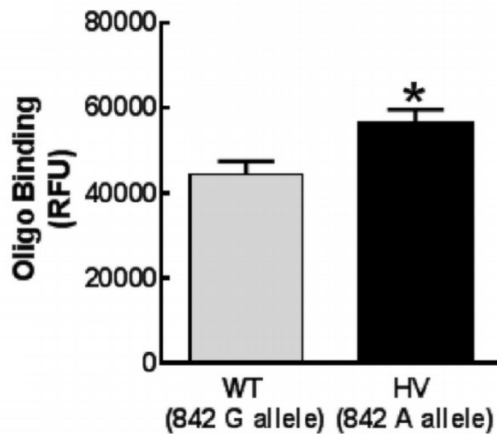
Product Type:	Recombinant Proteins
Description:	Recombinant protein of human hepatocyte nuclear factor 4, alpha (HNF4A), transcript variant 2, 100 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC217863 representing NM_000457 Red =Cloning site Green =Tags(s) MRLSKTLVDMDMADYSAALDPAYTTLEFENVQVLTMGNDTSPSEGTLNAPNSLGVLSALCAICGDRATGK HYGASSCDGCKGFFRRSVRKNHMYSCRFSRQCWVDKDKRNQCRYCRLKKCFRAGMKKEAVQNERDRISTR RSSYEDSSLPSINALLQAEVLSRQITSPVSGINGDIRAKKIASIADVCEMKEQLLVLEWAKYIPAFCE LPLDDQVALLRAHAGEHLLLGATKRSVMFKDVLVLLGNDYIVPRHCPELAEMSRVSIIRLDELVLPFQELQ IDDNEYAYLKAIIFDPDAKGLSDPGKIKRLRSQVQSLEDYINDRQYDSRGRFGELLLLLPTLQSITWQ MIEQIQFIKLFGMKIDNLLQEMLLGGSPSDAPHAHHPLHPLMQEHMGTNVIVANTMPHLSNGQMCEW PRPRGQAATPETPQPSPGGSGSEPYKLLPGAVATIVKPLSAIPQPTITKQEV TRTRPLEQKLISEEDLAANDILDYKDDDDKV
Tag:	C-Myc/DDK
Predicted MW:	52.6 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol



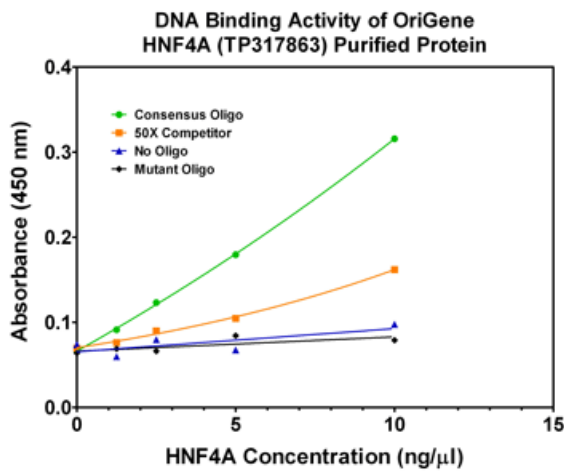
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Bioactivity:	<p>HNF4A Activity Verified in a DNA-binding Assay: HNF4A (TP317863, transcript variant 2) activity was measured in a colorimetric DNA-binding assay. Purified HNF4A protein containing a C-terminal MYC/DDK tag was incubated with biotinylated double-stranded oligonucleotide containing the HNF4A consensus DNA-binding sequence (see below). Following incubation, the reaction was transferred to a streptavidin-coated microplate to allow capture of the DNA-protein complex. After washing, the captured protein was detected with an anti-DDK peroxidase conjugate and colorimetric signal detection with TMB. Specificity of the protein-DNA interaction was confirmed by carrying out the binding in the presence of an unlabeled competitor oligonucleotide and by comparison to binding to an oligonucleotide containing a mutation in the consensus binding sequence.</p> <p>EMSA assay (PMID: 25598084) Binding assay (PMID: 29642240)</p>
Preparation:	<p>Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.</p>
Note:	<p>For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.</p>
Storage:	<p>Store at -80°C.</p>
Stability:	<p>Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.</p>
RefSeq:	<p>NP_000448</p>
Locus ID:	<p>3172</p>
UniProt ID:	<p>P41235, F1D8T1</p>
RefSeq Size:	<p>4737</p>
Cytogenetics:	<p>20q13.12</p>
RefSeq ORF:	<p>1422</p>
Synonyms:	<p>FRTS4; HNF4; HNF4a7; HNF4a8; HNF4a9; HNF4alpha; MODY; MODY1; NR2A1; NR2A21; TCF; TCF-14; TCF14</p>
Summary:	<p>The protein encoded by this gene is a nuclear transcription factor which binds DNA as a homodimer. The encoded protein controls the expression of several genes, including hepatocyte nuclear factor 1 alpha, a transcription factor which regulates the expression of several hepatic genes. This gene may play a role in development of the liver, kidney, and intestines. Mutations in this gene have been associated with monogenic autosomal dominant non-insulin-dependent diabetes mellitus type I. Alternative splicing of this gene results in multiple transcript variants encoding several different isoforms. [provided by RefSeq, Apr 2012]</p>
Protein Families:	<p>Druggable Genome, ES Cell Differentiation/IPS, Nuclear Hormone Receptor, Transcription Factors</p>
Protein Pathways:	<p>Maturity onset diabetes of the young</p>

Product images:



In vitro oligonucleotide binding assay. C-myc-tagged HNF4A protein (OriGene [TP317863]) was added to a solution of double-stranded oligonucleotides labeled with biotin. Oligonucleotides consisted of DNA sequences of wild-type (WT) or HV SLC4A5 alleles. After incubation for 30 min, streptavidin Alexa Fluor 647 was added to label the oligonucleotides; anti-c-Myc antibody was then added, followed by magnetic protein A/G to capture HNF4A-oligonucleotide complexes. The samples were washed and read on a microplate reader. HNF4A binding is increased in HV relative to WT sequence. Figure cited from PLoS ONE, PMID: 29642240



Coomassie blue staining of purified HNF4A protein (Cat# [TP317863]). The protein was produced from HEK293T cells transfected with HNF4A cDNA clone (Cat# [RC217863]) using MegaTran 2.0 (Cat# [TT210002]).