

Recombinant Rat Hspd1 protein, His-tagged

Cat. No. Hspd1-243R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Hspd1 fused with His tag was expressed in E. coli.
Species	Rat
Source	E.coli
Description	HSPD1, also known as HSP60, is a member of the chaperonin family. HSPD1 may function as a signaling molecule in the innate immune system. This protein is essential for the folding and assembly of newly imported proteins in the mitochondria. It may also prevent misfolding and promote the refolding and proper assembly of unfolded polypeptides generated under stress conditions in the mitochondrial matrix. HSPD1 gene is adjacent to a related family member and the region between the 2 genes functions as a bidirectional promoter. Several pseudogenes have been associated with this gene. Mutations associated with this gene cause autosomal recessive spastic paraplegia 13. Defects in HSPD1 are a cause of spastic paraplegia autosomal dominant type 13 (SPG13). Spastic paraplegia is a degenerative spinal cord disorder characterized by a slow, gradual, progressive weakness and spasticity of the lower limbs. Defects in HSPD1 are the cause of leukodystrophy hypomyelinating type 4 (HLD4); also called mitochondrial HSP60 chaperonopathy or MitCHAP-60 disease. HLD4 is a severe autosomal recessive hypomyelinating leukodystrophy. HSPD1 is clinically characterized by infantile-onset rotary nystagmus, progressive spastic paraplegia, neurologic regression, motor impairment, profound mental retardation. Death usually occurs within the first two decades of life.

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Form	Lyophilized from sterile PBS, pH 7.4
Purity	> 95 % as determined by SDS-PAGE
Storage	Store at -70 centigrade. Avoid repeated freeze/thaw cycles.
GENE INFORMATION	
Gene Name	Hspd1 heat shock protein 1 (chaperonin) [Rattus norvegicus]
Official Symbol	Hspd1
Synonyms	HSPD1; heat shock protein 1 (chaperonin); 60 kDa heat shock protein, mitochondrial; CPN60; HSP-60; HSP-65; chaperonin 60; 60 kDa chaperonin; heat shock 60kDa protein 1; heat shock protein 60 (liver); mitochondrial matrix protein P1; heat shock 60kD protein 1 (chaperonin); Hsp60; Hspd1-30p;
Gene ID	63868
mRNA Refseq	NM_022229
Protein Refseq	NP_071565
UniProt ID	P63039
Chromosome Location	9q31
Pathway	Legionellosis, organism-specific biosystem; Legionellosis, conserved biosystem; RNA degradation, organism-specific biosystem; RNA degradation, conserved biosystem; SIDS Susceptibility Pathways, organism-specific biosystem; Tuberculosis, organism-

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specific biosystem; Tuberculosis, conserved biosystem;

Function

ATP binding; cell surface binding; chaperone binding; insulin binding; lipopolysaccharide binding; misfolded protein binding; nucleotide binding; p53 binding; protease binding; protein binding; protein complex binding; protein heterodimerization activity;

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