



Recombinant pLDH (Plasmodium vivax)

20180524BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	400-005
Size:	25 µg
Concentration:	[depends on the special lot]
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>LDH-P</i>
Synonyms:	<i>lactate dehydrogenase, LDH</i>

Malaria is one of the most widespread infectious diseases affecting some 500 million people with an enormous cost in human suffering and economic hardship. Effective treatment of the disease is increasingly compromised by rising resistance of malaria parasites to currently available anti-malarials.

The parasites are homolactate fermenters and rely on glycolysis for energy generation since the parasites appear to lack a functional citric acid cycle. The NAD⁺ consumed during glycolysis is reduced to NADH by lactate which, in turn, is oxidized to pyruvate. This reaction is catalyzed by lactate dehydrogenase (LDH). It has been demonstrated that inhibitors of this enzyme have parasitocidal activity. Since LDH from the malaria parasite *Plasmodium falciparum* (PfLDH) has notable structural and kinetic differences from human LDHs, the enzyme appears to be an attractive target for novel anti-malarial therapeutics. The parasite, *P. falciparum*, is the most lethal of malarial plasmodia being responsible for the cerebral form of the disease; consequently it has been the major focus of initial biochemical and genomic investigation. On the other hand, the parasite *P. vivax* is of great importance as it is the most widespread and common of the malarial plasmodia and, therefore, is responsible for the greatest burden of disease.

References

1. Dunn et al, Nat Struct Biol 3:912, 1996
2. Gomez et al, Mol Biochem Parasitol 90:235, 1997
3. Royer et al, J Med Chem 29:1799, 1986
4. Sherman IW, Microbiol Rev 43:453, 1979
5. Roth et al, Blood 72:1922, 1988
6. Nwaka S & Ridley RG, Nat Rev Drug Discov 2:919, 2003
7. Bzik et al, Mol Biochem Parasitol 59:155, 1993
8. Bernal et al, Nucl Acids Res 29:126, 2001

Sequence

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PALMTPPKPKIVLVGSGMIGGVMATLIVQKNLGDVVMFVVKMNPQGKALDTS
HSNVMAYSNCKVTGSNSYDDLKGDVVIIVTAGFTKAPGKSDKEWNRDLDLPL
NNKIMIEIGGHIKNLCPNAFIIIVVTNPVDVMVQLLFEHSGVVPKNIIGLGGV
LDTSRLKYYISQKLNVCPRDVNALIVGAHGNKMVLLKRYITVGGIPLQEFIN
NKKITDEEVEGIFDRTVNTALEIVNLLASPYVAPAAAIIEMAESYLKDIKKV
LVCSTLLEGQYGHNSIFGGTPLVIGGTGVEQVIELQLNAEKTGFDEAVAET
KRMKALI
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Database References

Protein RefSeq:	AEP83561.1
Uniprot ID:	Q4PRK9
mRNA RefSeq:	JN547220.1

Product Specifications

Expressed in	Insect cells
Purity	~ 80% by SDS-PAGE & Coomassie blue staining
Buffer	50 mM Tris, 250 mM NaCl, 1 mM EDTA
Stabilizer	None
Formulation	liquid
Length (aa):	319 (without GST-tag)
MW:	~35 kDa

Stability: According to the available data the liquid protein stored at 4-8°C is stable at least for about 10 months.



AVOID REPEATED FREEZE AND THAW CYCLES!

Application: Standard for ELISA



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Handling/Application

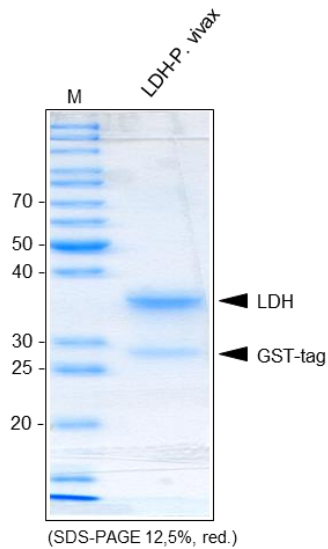


Figure 1: SDS-PAGE analysis of recombinant GST-pLDH from *Plasmodium vivax* produced in insect cells after cleavage of the GST-tag. Sample was loaded in 12.5% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.