NGAL (Lipocalin-2) (LCN2) ELISA Kit for Dog

PRODUCT OVERVIEW

Product Name	NGAL (Lipocalin-2) (LCN2), ELISA Kit
Full Product Name	Dog NGAL ELISA Kit
Product Gene Name	LCN2 elisa kit
Product Synonym Names	Dog NGAL (Lipocalin-2)
Species Reactivity	Dog
Assay Type	Sandwich
Samples	Immunoperoxidase Assay for Determination of Lipocalin-2/NGAL in Dog Samples
Specificity	This ELISA is specific for the measurement of natural and recombinant mouse and rat Nampt. It does not cross-react with human Nampt, human adiponectin, mouse adiponectin, mouse resistin, mouse vaspin, mouse RBP4, mouse GPX3, mouse progranulin, mouse IL-33, mouse clusterin, mouse ANGPTL3, mouse ANGPTL4, mouse ANGPTL6, mouse leptin, mouse TNF-alpha.
Preparation and Storage	Store at 4 degree C.
Inter-assay Precision	Six samples of known concentrations of mouse and rat Nampt were assayed in 6 separate assays to test precision between assays.
Intra-assay Precision	Six samples of known concentrations of mouse and rat Nampt were assayed in replicates 5 times to test precision within an assay
Molecular Weight	22,588 Da
Chromosome Location	Chromosome: 9; NC_000009.11 (130911732..130915734). Location: 9q34
OMIM	600181
3D Structure	ModBase 3D Structure for P80188
Product Categories/Family for LCN2 elisa kit	ELISA Kit
Related Product Information for LCN2 elisa kit	Principle of the Assay: The principle of the double antibody sandwich ELISA is represented in Figure 1. In this assay the lipocalin- 2/NGAL (NGAL) present in samples reacts with the anti-NGAL antibodies which have been adsorbed to the surface of polystyrene microtitre wells. After the removal of unbound proteins by washing, the Detection Antibody, biotin conjugated anti-NGAL, is added and complexes are formed. Following a wash step, the horseradish peroxidase (HRP) conjugated Streptavidin is added and complexes are formed. After another washing step, the complexes are assayed by the addition of a chromogenic substrate, 3,3',5,5'- tetramethylbenzidine (TMB). The quantity of bound enzyme varies directly with the concentration of NGAL in the sample tested; thus, the absorbance, at 450 nm, is a measure of the concentration of NGAL in the test sample. The quantity of NGAL in the test sample can be interpolated from the standard curve constructed from the standards, and corrected for sample dilution. Intended Uses: The NGAL test kit is a highly sensitive two-site enzyme linked immunoassay (ELISA) for measuring NGAL in dog biological samples. If the ELISA is to be used outside the intended use, the user may need to optimize for said use.
Other Notes	Small volumes of LCN2 elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for LCN2 purchase	MBS564146 is a ready-to-use microwell, strip-or-full plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the NGAL (Lipocalin-2) (LCN2) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing LCN2. The ELISA analytical biochemical technique of the MBS564146 kit is based on LCN2 antibody-LCN2 antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect LCN2 antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, LCN2. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for LCN2. It may not necessarily be applicable to this product.

NCBI GI #	38455402
NCBI GeneID	3934
NCBI Accession #	NP_005555.2
UniProt Primary Accession #	P80188
UniProt Secondary Accession #	P30150; Q5SYV9; Q5SYW0; Q6FGL5; Q92683; A6NII8; B4DWV4; B7ZAA2
UniProt Related Accession #	P80188
GenBank Nucleotide #	NM_005564.3
NCBI Official Full Name	neutrophil gelatinase-associated lipocalin
NCBI Official Synonym Full Names	lipocalin 2
NCBI Official Symbol	LCN2
NCBI Official Synonym Symbols	24p3; MSFI; NGAL
UniProt Protein Name	Neutrophil gelatinase-associated lipocalin
UniProt Synonym Protein Names	25 kDa alpha-2-microglobulin-related subunit of MMP-9; Lipocalin-2; Oncogene 24p3; p25
Protein Family	Neutrophil gelatinase-associated lipocalin
UniProt Gene Name	LCN2
UniProt Synonym Gene Names	HNL; NGAL
UniProt Entry Name	NGAL_HUMAN
NCBI Protein Information	neutrophil gelatinase-associated lipocalin; p25; lipocalin-2; siderocalin; oncogene 24p3; OTTHUMP00000022238; OTTHUMP00000022239; OTTHUMP00000022240; migration-stimulating factor inhibitor; 25 kDa alpha-2-microglobulin-related subunit of MMP-9

UniProt Comments for LCN2	LCN2: Iron-trafficking protein involved in multiple processes such as apoptosis, innate immunity and renal development. Binds iron through association with 2,5-dihydroxybenzoic acid (2,5- DHBA), a siderophore that shares structural similarities with bacterial enterobactin, and delivers or removes iron from the cell, depending on the context. Iron-bound form (holo-24p3) is internalized following binding to the SLC22A17 (24p3R) receptor, leading to release of iron and subsequent increase of intracellular iron concentration. In contrast, association of the iron-free form (apo-24p3) with the SLC22A17 (24p3R) receptor is followed by association with an intracellular siderophore, iron chelation and iron transfer to the extracellular medium, thereby reducing intracellular iron concentration. Involved in apoptosis due to interleukin-3 (IL3) deprivation: iron-loaded form increases intracellular iron concentration without promoting apoptosis, while iron-free form decreases intracellular iron levels, inducing expression of the proapoptotic protein BCL2L11/BIM, resulting in apoptosis. Involved in innate immunity, possibly by sequestrating iron, leading to limit bacterial growth. Belongs to the calycin superfamily. Lipocalin family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted; Secreted, signal peptide Chromosomal Location of Human Ortholog: 9q34 Cellular Component: extracellular space; extracellular region; cytosol Molecular Function: protein homodimerization activity; protease binding; transporter activity; iron ion binding Biological Process: response to drug; cellular response to nutrient levels; cellular iron ion homeostasis; response to virus; positive regulation of cell projection organization and biogenesis; siderophore transport; innate immune response; ion transport; response to herbicide; transmembrane transport
Research Articles on LCN2	**1.** LCN2 expression shows clear correlation to liver damage and resulting inflammatory responses, rather than to the degree of liver fibrosis, which in fact may imply a distinct diagnostic value as an early biomarker of liver inflammation.
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