



YASHRAJ
BIOTECHNOLOGY LTD.
a bio-quest for ever



Yashraj Biotechnology Newsletter

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Characterization of NGAL Isoforms

In attempt to characterize the two well known form of Kidney-NGAL and Neutrophil-NGAL (kNGAL & nNGAL). Our R & D team carried out some basic proteomic studies. In our studies we found following interesting observation about NGAL-

- kNGAL is slightly acidic whereas nNGAL is basic in physiological condition
- kNGAL is predominately Monomeric form whereas nNGAL exist both monomeric and dimeric form
- Our study also suggested higher sialylation content of kNGAL in comparison to nNGAL

Our above finding was published in the IJPBS .Further attempts are being made to understand the physiological function of two isoforms..

Dear Readers,

Welcome to Yashraj Biotechnology Newsletter! It's indeed a moment of great pleasure to release the fourth issue of our Newsletter. It's been one year since we implanted the idea of our newsletter. At the end of a wonderful year, we are pleased to share with you the success of our newsletter. Our newsletter has been warmly received by our customers and the R &D scientists. It has also enabled us to keep our customers more updated, about our products.

In the fourth quarter of year, our R & D team was successful in purifying recombinant human Prolactin and generate high affinity clone of HbA1c antibodies. Further attempts are being made to characterize the antibodies.

As we countdown to the Christmas and New Year, we would like to take this opportunity to wish you a Merry Christmas and Happy New year.

Thank you for all your support.

(Arvind K. Bhanushali, Bharat T. Dagha, Paresh B. Bhanushali)
Promoter Directors

Diagnosing depression with a blood test

Researchers from Northwestern University have developed a blood test that might help health practitioner to diagnose clinical depression, The test,, relies on the measurement of blood levels of nine different RNA molecules that seem to be altered between healthy people and people suffering from depression.

<http://www.nature.com/tp/journal/v4/n9/abs/tp201466a.html>



r-SLO

Streptolysin O is a hemolytic endotoxin secreted from streptococcal. It is a thiol activated membrane damaging protein of Molecular weight 69 Kda. It binds to the cholesterol-containing target membranes.

Route of Production: Recombinant

Expression system: *E. coli*

Accession: Q8P2T7-1

YBL makes following two version of r-SLO

1) Recombinant & Stabilized Streptolysin O (Gluterladehyde stabilized, contains free amino group).

2) Recombinant & Stabilized Streptolysin O (Gluterladehyde stabilized).

r-NGAL

NGAL is also known as Lipocalin-2 (neutrophil gelatinase associated lipocalin). It is an early and reliable indicator of acute kidney injury (AKI). In the recent past NGAL has emerged as an excellent prognostic marker for the AKI. During kidney injury level of NGAL goes high in both plasma as well as urine. Since NGAL is resistant to protease, it is quite stable in the blood and serum. (Fig 1& 2).

Route of Production: Recombinant

Expression system: *E. coli*

Accession: P80188 (rNGAL-Wild), P80188; 107: C→S (rNGAL-Mutant)

SDS PAGE profile: NGAL (mutant)

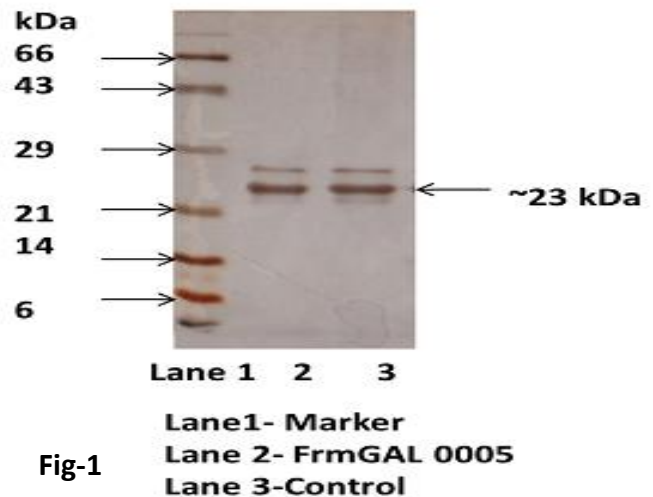


Fig-1

SDS PAGE profile: NGAL (wild)

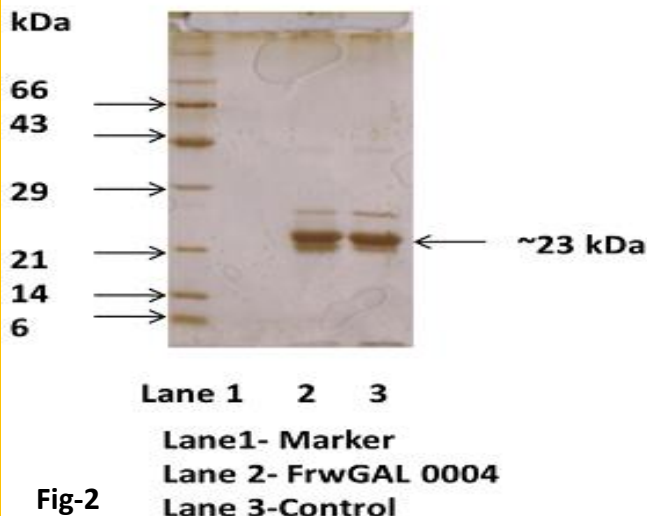


Fig-2

YBL-RECOMBINANT ANTIGENS

YBL offers a broad service in cloning, expression, and purification of proteins in *E. coli* and cell culture system. We adopt Site directed Mutagenesis, Signal Sequence Insertion methods for optimization of protein expression and solubilization. We have purified broad spectrum of proteins having great diagnostic importance e.g FABP-3, SAA, NGAL, SLO. Besides the recombinant products which we are regularly making, we can also do R&D and make new products for you with short turn-around time.

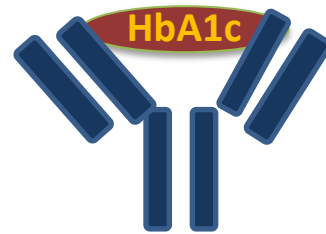


HbA1c Monoclonal antibodies

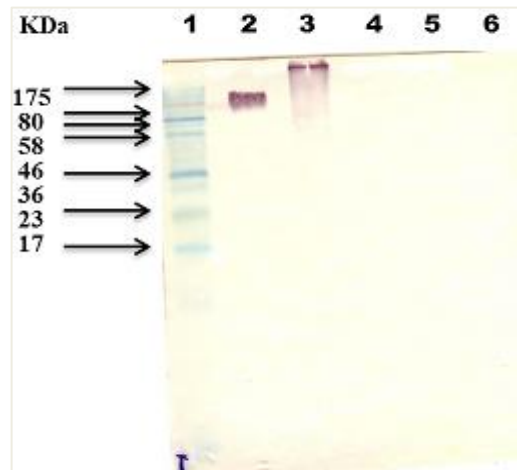
YBL cell culture unit has generated a new clone of monoclonal antibodies against the HbA1c. Our antibodies specifically recognize glycated valine in the synthetic peptide comprise of N terminal sequence of hemoglobin β chain. (Fig-3).Further, we are in process of studying the binding kinetics of HbA1C Mabs with the antigen by Surface Plasmon Resonance (SPR).

HbA1c Test

The popular HbA1c test shows the average level of blood glucose over the previous 3 months. HbA1c is considered to be a prognostic marker for the diabetes mellitus. Higher amounts of glycated hemoglobin in the blood have also been shown to be associated with cardiovascular disease and retinopathy.

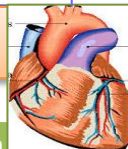


WB: HbA1c Mab



Lane 1 – MW ladder
Lane 2 –HBA1c-BSA
Lane 3 –HBA1c-KLH
Lane 4 – HBA1c-BSA
Lane 5 – NHS
Lane 6 – BSA

YBL-Top Cardiac/CVD Markers



Duplex assay: NT-proBNP & CRP

YBL-Cardiac/CVD Markers	Route of Production
Galectin – 3	Recombinant
Troponin I	Recombinant
NT- Pro BNP	Recombinant
Pro- BNP	Recombinant
FABP-3	Recombinant
Apo-SAA	Recombinant
CRP	Native
Myeloperoxidase (MPO)	Native
D-Dimer	Native

As per the emerging literature, clinical measurement of plasma levels of NT-proBNP and CRP may enable us in improved prediction of CHF risk and thereby assist earlier implementation of strategies for prevention .

YBL has many of the antigens which are being validated by various research labs for the usage in duplex and multiplex assays.



D-Dimer

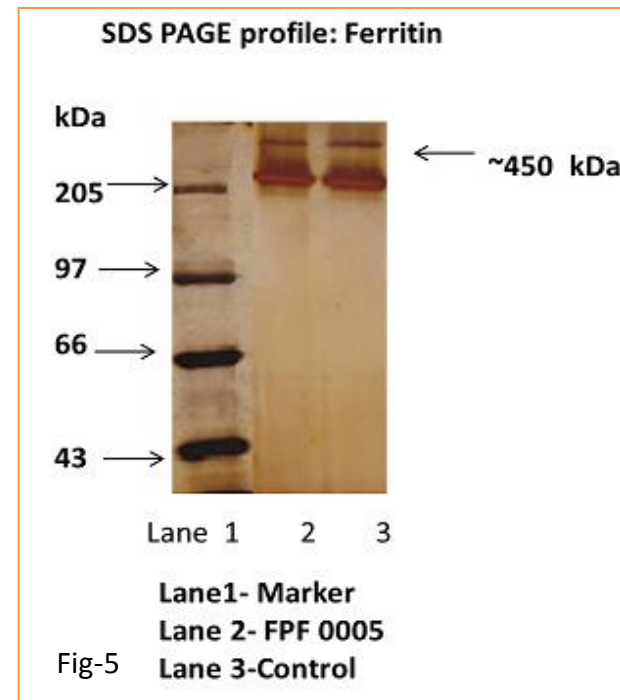
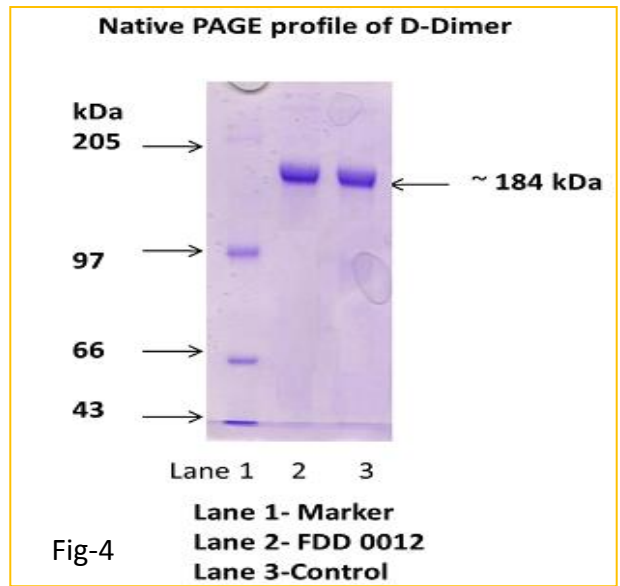
D-dimer is a degradation product of fibrin. It is considered as a prognostic marker for the thrombotic disorders. D-dimer testing is also used for the evaluation of suspected patients of deep venous thrombosis. On native page observed molecular weight of D-dimer is 184 kDa. (Fig-4)

Route of Production: Native

Human placental ferritin (PLF)

Human placental ferritin (PLF) is a heteropolymer comprise of a 43-kDa subunit of ferritin light chains. Placental ferritin acts as a physiological immunoregulator during pregnancy. Elevated level of Human placental ferritin (PLF) is seen in the serum of pregnant women. Molecular weight of native form is observed around 450 kDa. (Fig-5)

Route of Production: Native



Medica,2014: Contact Us

We are hoping for your presence in the annual gathering at Medica 2014 Germany! With the greatest pleasure, we can meet you in this event.

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Please meet us at -----

MEDICA: World Forum for Medicine – Düsseldorf 2014
12 – 15 November 2014 .

City: Düsseldorf / Deutschland



12-15 Nov 2014
Düsseldorf - Germany

Send us an e-mail with an inquiry, comment or suggestions at bharat@yashrajbio.com

For products information please visit us at <http://www.yashraj.com/>

