



YASHRAJ
BIOTECHNOLOGY LTD.
a bio-quest for ever



Yashraj Biotechnology Newsletter

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Lectin based immunoassay for detection of PSA

In an elegant study, our R &D team demonstrated an analytical approach for the detection and verification of glycosylation patterns of prostate specific antigen (PSA). PSA is a monomeric glycoprotein, which exhibits a characteristic protease activity against casein and gelatin. A lectin based immunoassay is reported here which was achieved with our C4E6 anti-PSA antibody and biotinylated plant lectins. This investigation provides an alternative method to isolate and quantify PSA with altered glycosylation. This form might be seen in the patient's suffering from prostate cancer. There is possibility that this this investigation could be used in development of lectin based immunoassay for detection of PSA in serum of prostate cancer patients. Our findings were published in the IJBM.

Reference:

<http://www.sciencedirect.com/science/article/pii/S0141813016301118>

Dear Readers,

Welcome to this issue of Yashraj Biotechnology's Newsletter. It is indeed a moment of great pleasure to release the second issue of our Newsletter in 2016.

In the first quarter of the year, we had several exciting events, we successfully finished the characterization of recombinant human TPO and HE-4 in mammalian expression system. We also performed purification and scale up of kappa and lambda free light chain.

In March 2016, we attended the Asia's one of the biggest trade fare show for IVD and Medical devices at CACLP China. We had one to one interaction with potential customers, distributors and research scholars and showcased our products to them.

We shall also be attending next trade show at AACC, Philadelphia. We look forward to see you there at our booth in AACC-2016

Thank you all for your support.

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

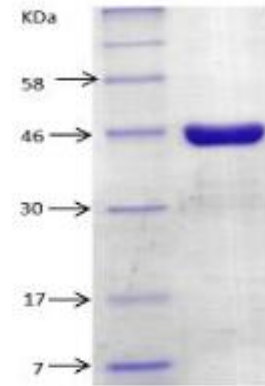


Troponin-T

Troponin T is a part of tropomyosine complex and facilitates binding of Troponin C with tropomyosin. Tropomyosin complex slides on the actin filament during the contraction of the muscles. Troponin T is considered to be a gold standard biomarker for the cardiac injuries. It is considered to be more cardiac specific than Creatine Kinase and Lactate Dehydrogenase.

Route of Production: Recombinant

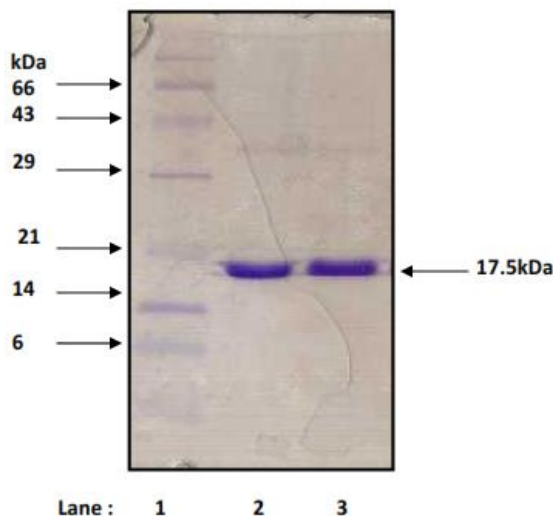
Human Troponin T: SDS PAGE



Lane1- Marker
Lane 2- Troponin T

Fig-1

13% Reduced SDS PAGE: rHu SAA UltraPure



Lane1 :MWL
Lane2: VrSAA0001/14
Lane3: VrSAA 0002/14

Fig-2

SAA

Serum amyloid A (SAA) proteins comprise a family of apolipoproteins. These proteins play an important role in HDL metabolism and cholesterol homeostasis. Human SAA1 is a major acute phase protein that is highly expressed in response to inflammation and tissue injury. SAA is considered to be a biomarker for inflammation.

Route of Production: Recombinant

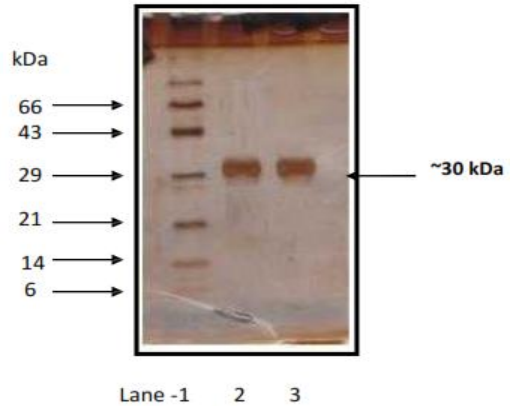


A1M

A1M (A1M stands for Alpha-1-microglobulin. It belongs to lipocalin protein superfamily. A1M is synthesized mainly in the liver cells. Its major function is detoxification and clearance of the free radicals from the human body. Increased A1M in the urine is believed to be an indicator for proteinuria and other renal disorders.

Route of Production: Native

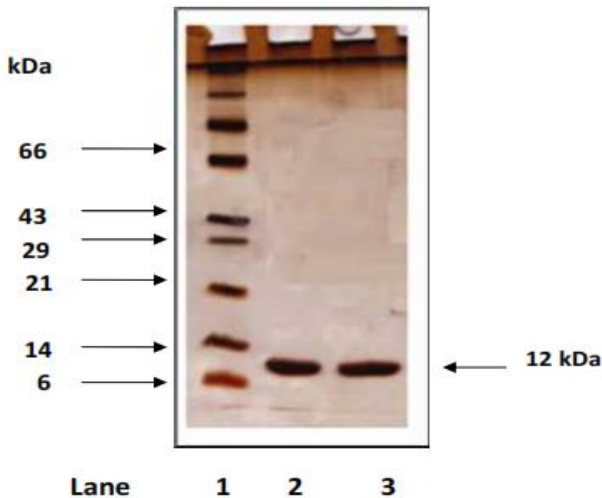
12% Reduced SDS PAGE :A1M HP



Lane -1 2 3
Lane 1- MWL
Lane 2- DA1M 3/11
Lane 3- Internal Control

Fig-3

15% Reduced SDS-PAGE: B2M



Lane 1 : MWL
Lane 2: FB2M0032
Lane 3 : B2M Control

Fig-4

B2M

B2M stands for the Beta-2-microglobulin. It is a globular protein and belongs to MHC class 1 family. B2M is found on all nucleated cells and shed into the blood stream. Elevated level of B2M is seen in the urine of patients during renal failure. B2M is considered to be a biomarker for monitoring the progression of renal disease to chronic renal failure.

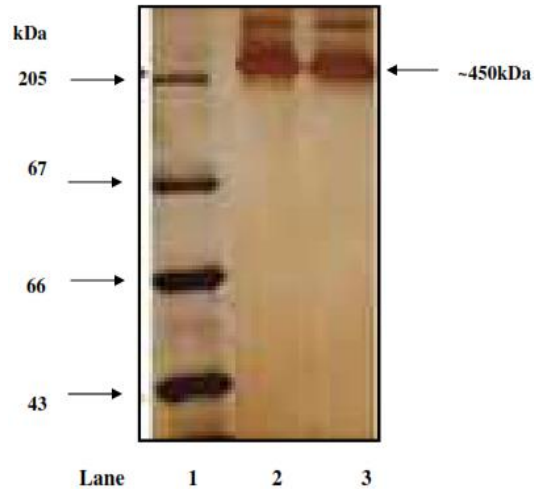
Route of Production: Native

PLACENTAL FERRITIN

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.

Route of Production: Native

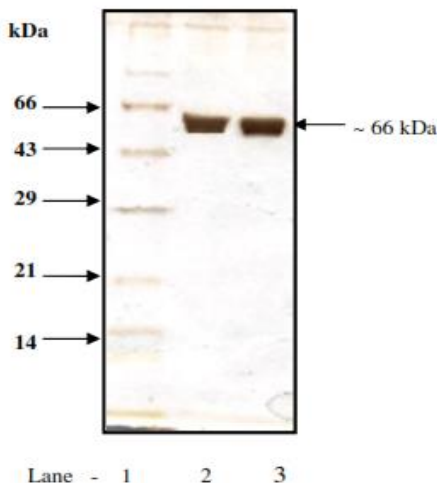
7% Unreduced SDS-PAGE: Ferritin



Lane 1: MWL
Lane 2: FPF0006
Lane 3: Ferritin Control

Fig-5

12% Unreduced SDS-PAGE: AFP



Lane 1- MWL
Lane 2- FAF0017
Lane 3- AFP Control

Fig-6

AFP

Alpha fetoprotein (AFP) is a protein usually produced by the liver and yolk sac of a developing fetus during pregnancy. AFP is currently being used as gold standard diagnostic biomarker for the Hepatocellular carcinoma (HCC). Elevated level of AFP level correlates with the presence of HCC.

Route of Production: Native



Third Party Validation (TPV) of our Antibodies

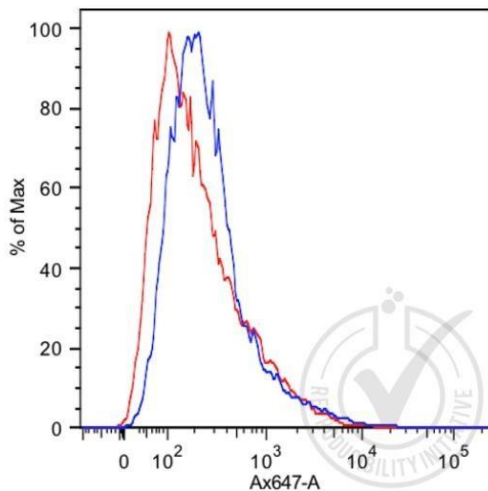


TPV is an independent validation and certification of the products. In continuation efforts to boost the confidence of customers in our products, we are incorporating this process of Third Party Validation (TPV) in our product development.

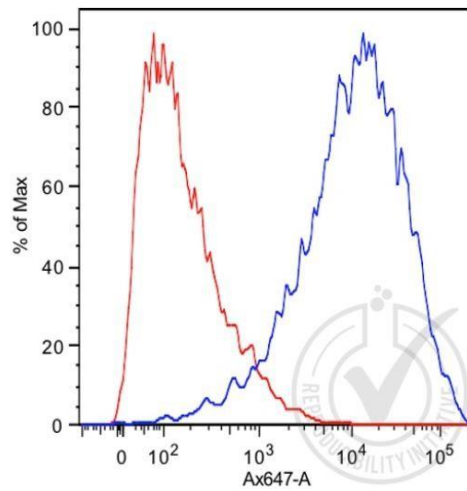
Antibody against CA15-3 like antigen: Third Party Validation (TPV) Reports

Our antibody against CA 15-3 like antigen is the first product which has undergone of TPV process. Our antibodies were independently tested and certified for two different assays i.e Flow cytometry and Immunoflorescence (IF). The validation data suggests that our antibody specifically binds to the CA 15-3 expressing Breast cancer cell line, MCF-7 (Fig-9).

antibody validation for Flow Cytometry



Negative Control - C6/36 cells stained with our specific antibody (blue) or isotype (in red)



Positive Control – MCF-7 cells stained with our specific antibody (blue) or isotype (in red)

FACS studies performed at Purdue University

Fig-7

Continued on page...9



CACLP-2016

This was first time we had a stall at CACLP-2016 exhibition in China!. We met number of potential customers and distributors. Congratulations to the entire team of YBL. It was immensely successful!



AACC 2016: Meet Us

YBL will join over 750 exhibitors and more than 18,000 clinical laboratory innovators at world's biggest trade show for IVD in AACC 2016.

We are hoping for your presence in AACC-2016 in Philadelphia. Please visit us at Booth **2645 from July 31st to 4th August 2016**. Our R & D team would be happy to answer your queries and discuss potential projects and update you about other research and developments initiative in Yashraj Biotechnology.

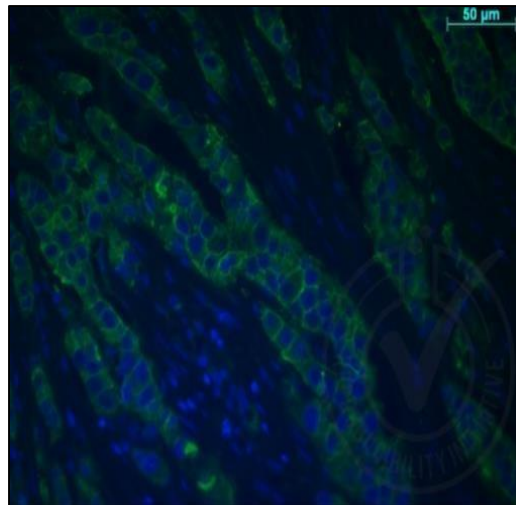


Antibody Validation for IF

In Immunofluorescence (IF) studies strong signal was detected in positive control tissue, while signal was not detected in negative control cells. Presence of specific signals in the positive control suggests specific nature the antibody (Fig-8).



Negative control



Positive control

(Fig-8)
anti-CA15-3 (green) and DAPI (blue).

IF studies
performed
at
University
of Florida

Bulk Orders & Product Development at YBL

YBL is your trusted partner for supply of high quality Antigens and Antibodies of batch-to-batch consistency with shortest possible lead time, we can also offer the facility of customizing the products as per your specifications, such as buffer, COAs, packaging and logistics.

Besides the products which we regularly make, we can also do R&D and make new products for you with short turn-around time.

Send us an e-mail with an inquiry, comment or suggestions at

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marketing@yashrajbio.com

For more products information please visit us at

<http://www.yashraj.com/>

