お問合せ：株式会社河口・サポート
TEL: 0120-25-1866
Email: info_1001@kawaguchi-support.jp

非特異的な原核生物のDNA汚染に対処していますか？

酵母表現システム

インビトロ診断とバイオファーマのための原料製造技術の決定版

リアルタイムPCR

qPCR MasterMix
Taq DNA ポリメラーゼ
熱不安定性DNase
逆転写酵素
T4 DNA リガーゼ

mRNA合成

キャッピング酵素
DNase I
ピロホスファターゼ
RNase阻害剤

等温増幅

Bstポリメラーゼ

次世代シーケンス

CLIA

ブロッキングバッファ

組換えκ-カゼイン
組換えBSA
動物成分不使用バッファー

強化機能＆翻訳後修飾
非動物由来の起点＆原核生物のDNAを含まない
スケーラブルな生産プロセス

ラ・チャルカ工業団地
Calle C、パルセラ M 10-11
50300 カラタユ、サラゴサ、スペイン
(+34) 976 198 404

info@levprot.com
www.levprot.com

リアルタイムPCRソリューション

DNA＆RNAの増幅
原核生物DNAなし
動物成分不使用バッファー
正確、高速、スケーラブル

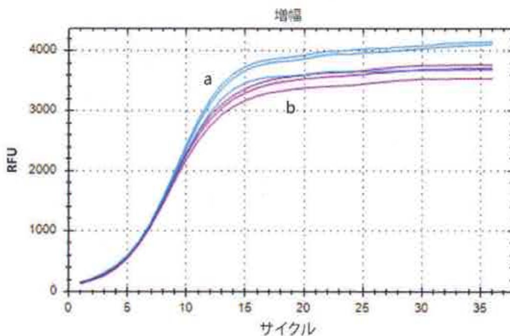
LEVPROT BIOSCIENCE

Levprot Bioscienceは、総合的なPCRソリューションを提供しています。弊社の主力製品であるMasterYeast®は、-TaqMan®、Scorpions®、およびモレキュラービーコンプローブを含むすべてのプローブベースのリアルタイムPCRアッセイにおいて、優れた感度と特異性の実現を目指して設計されたユニバーサルプローブキットです。さらに、RNAベースのアプリケーションで正確で信頼できる結果を保証し、特殊なRNA検出リファレンスをお届けします。酵母細胞由来の高度な技術により、非動物由来の起点と原核生物のDNAを含まないコンポーネントを保証し、最小限の最適化で市場をリードする性能を実現します。

Levprot BioscienceのGreen Master Yeast® は、インターカレーティング緑色素のシンプルさと、RNAとDNA検出における最新の進歩、そしてMasterYeast®の動物成分不使用バッファー技術を組み合わせています。

アプリケーション

- DNAおよびRNAサンプル診断用のリアルタイムPCR
- 感染症診断
- 抗生物質耐性検出
- 細菌感染診断
- 絶対定量
- 相対遺伝子発現分析
- TaqMan®、Scorpions®およびモレキュラービーコンプローブ
- 極めて低いコピー数のターゲット検出
- マルチプレックスまたはシングルプレックス



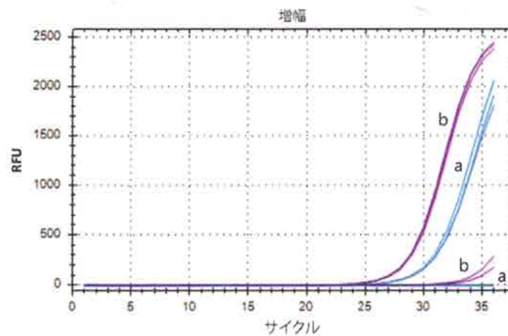


図 1. a- LevprotのqPCR Master-Yeast-Green、b- 競合他社のミックス。実験1は、MasterYeast®が競合他社のミックスよりも高い効率と蛍光レベルでがゲノムDNAをどのように増幅するかを示しています。実験2は、原核生物のDNAを含まないMasterYeast®溶液を使用した場合と比較して、競合他社のミックスで大腸菌の増幅および真正細菌16S rDNAの増幅を検出した場合の違いが5サイクルを超えることを示しています。使用されるプライマーは、*Patel et al.,* 2011で提案されています。

猫.番号	パックサイズ	表示
MT05R-SDMasterYeast®	500 x 20 µL リアクション	5 x 1 mL
MT05R-SRMasterYeast®	500 x 20 µL リアクション	5 x 1 mL

緑色素、凍結乾燥およびバルクサービスについては、hello@levprot.comまでお問い合わせください。

LEVPROT BIOSCIENCE

THE YEAST COMPANY

Yeast Expression System

Free of Prokaryotic DNA

Animal-Free Origin

rBSA · Casein · Buffers · Reagents · Blocking solutions

Kawaguchi Support

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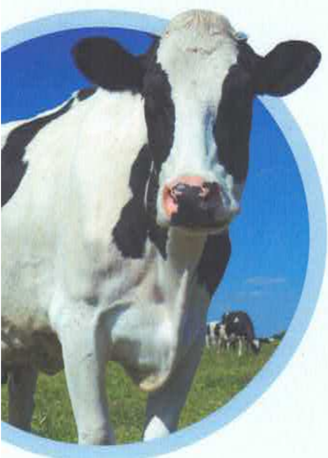


Levprot Bioscience provides animal-free & prokaryotic dna-free recombinant proteins and enzymes. Our technology delivers pure, animal-free proteins without prokaryotic dna contamination, ensuring safety and reliability.

Levprot Bioscience's precision fermentation platform enables highly functional proteins and enzymes with essential post-translational modifications for diverse applications: raw materials for biopharma, for in vitro diagnostics, and for foodtech landscape.

Levprot Bioscience's streamlined process scales easily, meeting market demands efficiently and cost-effectively.

BLOCKING AGENTS FOR *IN VITRO* DIAGNOSTICS

Recombinant k-casein

Recombinant k-casein is a non-bovine version of the k-casein fraction of whole bovine milk casein. Like this common bovine one, it is a useful tool for stabilizing amorphous calcium phosphate, and it acts as an organic adhesive and binder for safety matches. The advantages are that k-casein is soluble and offers more consistency and homogeneity than the bovine option, with an animal-free origin. Moreover, as it has been heterologously expressed in yeast cells, it is also free from Escherichia coli DNA, RNases and endotoxins. It is supplied in a glycerol-free buffer solution.

Cat. No.	Description	Size
MT10K-G1KCASHA	Recombinant Bovine k-casein RNase-free expressed in yeast. 10 mg/mL.	10 mg

Recombinant Bovine Albumin (rBSA)

rBSA is a non-animal albumin, equivalent to the common Bovine Serum Albumin (BSA), although heterelogously expressed in yeast cells. It prevents non-specific adhesion of enzymes to plastic surfaces, and stabilizes proteins during incubation, with even better efficiency than BSA.

rBSA is not only animal-free, but also free from *Escherichia coli* DNA contaminants, RNases and endotoxins. Moreover, it offers far more consistency and homogeneity than its bovine homologous. It can be supplied in glycerol-free buffer solution.

This product is animal-free, RNase-free, endotoxin-free and it is free from *Escherichia coli* DNA contaminants.

Cat. No.	Description	Size
MT10K-G1RBSAHA	rBSA RNase-free expressed in yeast. 20 mg/mL.	10 mg

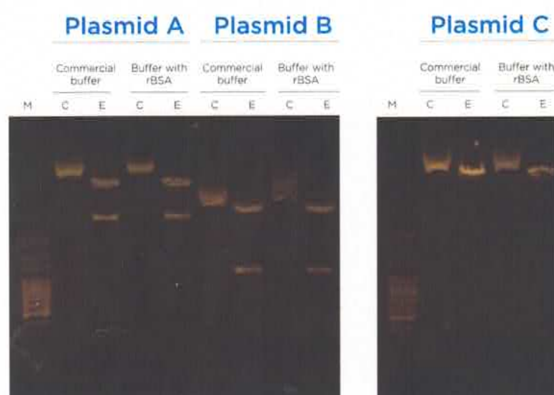


Figure 1: Three different restriction enzymes are used to digest three different plasmids. Plasmids A and B have two restriction sites and plasmid C has a single restriction site. Before and after digestion are indicated as C (control) and E (enzyme), respectively. M indicates DNA marker.

Results Figure 1: Same reaction efficiency was observed when substituting the animal-origin BSA of the commercial buffer with recombinant, non-animal rBSA.

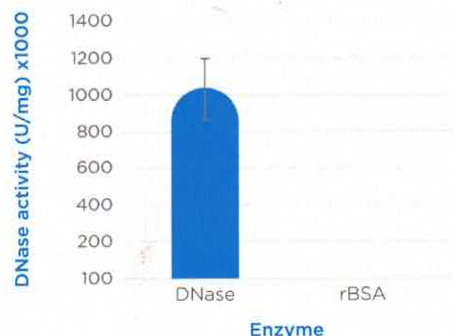
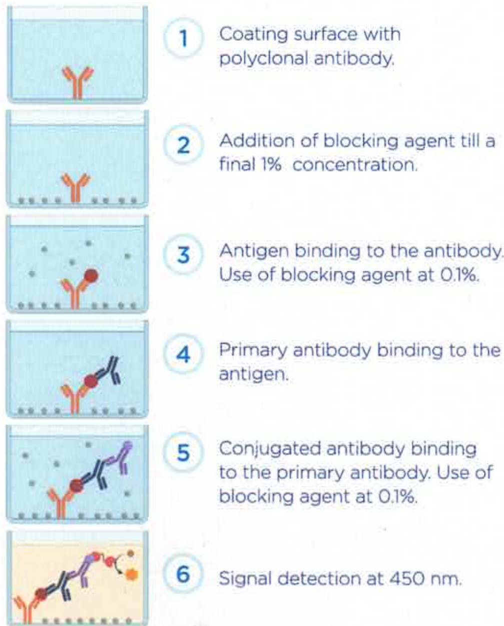


Figure 2: Analysis of rBSA DNase activity when compared to a standard, commercially available DNase I. Recombinant, non-animal rBSA shows non-DNase activity (<0.001 % activity in presence of calf thymus DNA at 25 °C) without needing any inactivation extra-step.

LEVPROT BIOSCIENCE

Performance of animal-free rBSA blocking ELISA experiments



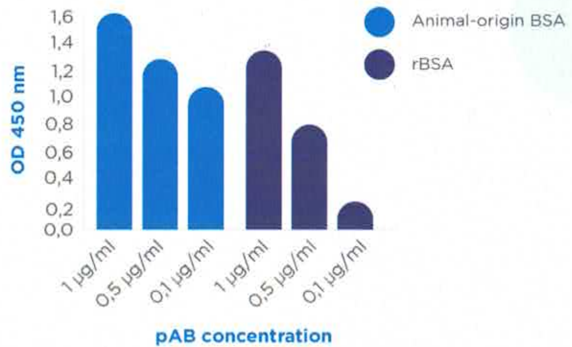
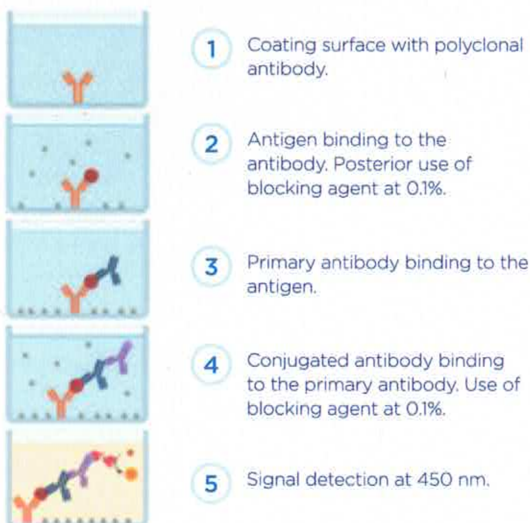


Figure 3: In this experiment, ELISA results were revealed using HRP and TMB as substrate; the specific reaction is directly correlated to the emitted signal at 450 nm. Performance of commercial animal-origin BSA and recombinant BSA expressed in yeast as blocking agents was compared. Three different pAB concentrations were tested (1, 0.5 and 0.1 µg/mL), against a constant antigen concentration (1 µg/mL).

Results Figure 3: The higher blocking capacity of non-animal-derived rBSA minimizes non-specific antigen and antibodies bindings to the plate surface.

Hence, a direct correlation is observed between the decrease in signal emitted by the final reaction and the initial concentration of the pAB: less pAB -> fewer specific reactions -> reduced secondary binding -> decreased signal.

On the contrary, when there are non-specific bindings to the plate surface (the case with animal-origin BSA), the signal decreases less, due to undesired reactions taking place.



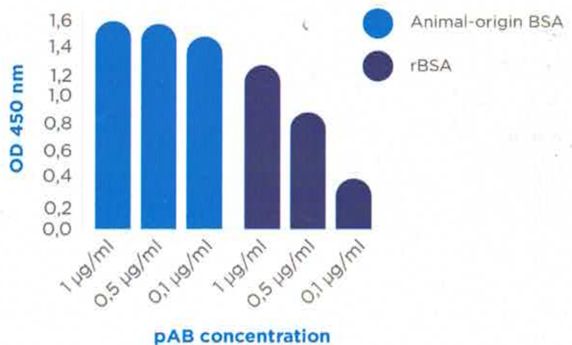


Figure 4: ELISA results were revealed using HRP and TMB as substrate; specific reaction is directly correlated to 450 nm emitted signal. Performances of commercial animal-origin BSA and rBSA expressed in yeast as blocking agents were compared. Three different pAB concentrations were tested (1, 0.5 and 0.1 µg/mL), against a constant antigen concentration (1 µg/mL). In this case, typical sandwich ELISA was not complete, since first blocking step was not carried out.

Results Figure 4: When eliminated the first blocking step of classical ELISA experiments, only with the recombinant, non-animal rBSA the signal decreased accordingly to the pAB initial concentration. Due to its around 10 times higher blocking capacity, first blocking ELISA step can be avoided without efficiency loss when using Levprot's recombinant, non-animal rBSA.