Synthetic spike-in standards for high-throughput DNA/RNA measurements

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National Institute of Advanced Industrial Science and Technology
AIST

NIST
National Institute of Standards and Technology
U.S. Department of Commerce

Genome science and molecular diagnostics (DNA and RNA)

- **Research**
  genome analysis of every organisms, gene-expression profiling, microbiome profiling

- **Medical diagnostics (>5 million tests/year JP)**
  viral/microbial detection, somatic variation, genetic testing

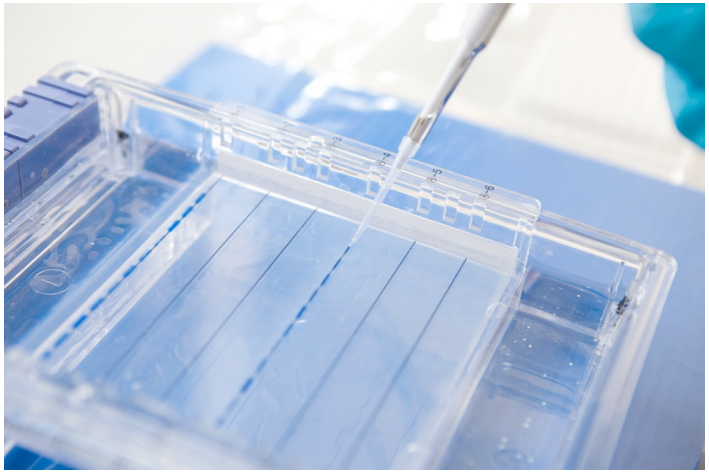
- **Agriculture, forestry, fisherie, and cloth**
  viral/microbial detection, species discrimination

- **Environment**

- **Industrial production**

- **Forensic**

- **Health (not necessarily associated with disease)**



amazon.co.jp プライム

Amazonポイント: 378

マイストア | ギフト券 | タイムセール | 出品サービス | ヘルプ

広告
JCBカードで3,500円分のOkiDokiポイントを当てよう 今すぐチェック

カテゴリー からさがす | すべて | 遺伝子検査キット “genetic testing kit” | 検索

こんにちは、関口勇地さん アカウントサービス | 今すぐ登録 プライム | 0 カート | ほしい物リスト

検索結果 162件中 1-24件 "遺伝子検査キット"

カテゴリーを選択して並べ替え

カテゴリ

ヘルス＆ビューティー
- 検査薬・検査キット
- ヘルスケア
- 血圧計
- ピルケース
- 栄養補給
- ダイエット補助食品
- 検査・医療器具

Kindleストア
- 医学・薬学
- 科学・テクノロジー

ホーム＆キッチン
- 肌水分・紫外線チェッカー
- 体重・体脂肪・体組成計

+ 全13カテゴリー

絞り込み

配送オプション (詳細)
- 国内配送料無料

ブランド
- DNASLIM(ディーエヌエー・スリム)
- MYCODE
- GeneLife
- 株式会社プロップジーン
- DHC(ディー・エイチ・シー)

+ 続きを見る

著者
- 白澤 卓二

海外配送 (詳細)
- AmazonGlobal対象

AGF
ホッと温まるコーヒーが

関連サーチ： 遺伝子検査, 遺伝子検査キット ダイエット .

“all in one test”
- obesity, diabetes, cancer….

「MYCODE（マイコード） オールインワン280+」 病気（がん・生活習慣病）、体質・ダイエット・美容の全検査項目が入った遺伝子検査キット
MYCODE

¥ 32,184 プライム
2015/2/10 火曜日中にお届け
通常配送無料
ヘルス&ビューティー: 全121商品を見る
★★★☆☆ 9

“for going on a diet”

DNASLIMダイエット遺伝子検査キット(口腔粘膜用)
DNASLIM(ディーエヌエー・スリム)

¥ 6,994 プライム
11点在庫あり。ご注文はお早めに。
こちらからもご購入いただけます
¥ 6,994 新品 (2 出品)
通常配送無料
ヘルス&ビューティー: 全121商品を見る
★★★★☆ 2

DHCの遺伝子検査ダイエット対策キット
DHC(ディー・エイチ・シー)

¥ 4,860 ~~¥ 5,400~~
ヘルス&ビューティー: 全121商品を見る
★★★☆☆ 15

DearGene がん+生活習慣病遺伝子解析サービス
DearGene

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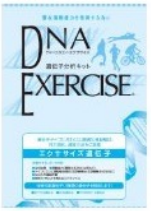
2点在庫あり。ご注文はお早めに。
こちらからもご購入いただけます
¥ 24,400 新品 (2 出品)
通常配送無料
ヘルス&ビューティー: 全121商品を見る
★★☆☆☆ 11

GeneLife 肥満遺伝子検査キット DIET
GeneLife

¥ 5,439 ~~¥ 5,965~~
ヘルス&ビューティー: 全121商品を見る
★★★☆☆ 4

「MYCODE（マイコード） ヘルスケア100+」 がん・生活習慣病の主たる病気と、体質・ダイエット・美容の一部検査が入った遺伝子検査キット
MYCODE

¥ 21,384 プライム
15点在庫あり。ご注文はお早めに。
通常配送無料
ヘルス&ビューティー: 全121商品を見る
★★★★★ 2



DNAEXERCISE エクササイズ遺伝子分析キット(口腔粘膜用)
DNASLIM(ディーエヌエー・スリム)

¥ 5,400 プライム
13点在庫あり。ご注文はお早めに。
こちらからもご購入いただけます
¥ 5,250 新品 (2 出品)

潜在能力がわかる! 遺伝子検査 (TJMOOK) (TJ MOOK) 2011/5/14
大型本
¥ 699 中古 & 新品 (10 出品)
本: 全15商品を見る
★★★★★ 2

GeneLife®NEO 330 Premium
GeneLife

¥ 29,800
ヘルス&ビューティー: 全121商品を見る
★★★★★ 1

Scope of our research and collaboration with NIST

- Reference materials, reference methods, and reference data are needed to assess confidence in genetic testing.

- For establishing a working relationship between NIST and AIST in this area, a collaborative work has been done within the following two groups.

    - NIST laboratory: **Dr. Marc Salit Group**
    - AIST laboratory: Our group (Biomeasurement RG)

- Dr. Naohiro Noda (AIST) stayed in Dr. Salit's group in NIST to initiate this collaborative work (6 months, 2010-2011).

    - Developing methods for validation and certification of nucleic acid sequence of DNA/RNA reference materials.
    - Developing methods for estimation of DNA and RNA purity using high-throughput DNA sequencing.

Reference material development in AIST

- **High-throughput measurement of DNA and RNA molecules.**
  > synthetic spike-in DNAs (20 species in total) for microbiome analysis and gene-expression analysis…

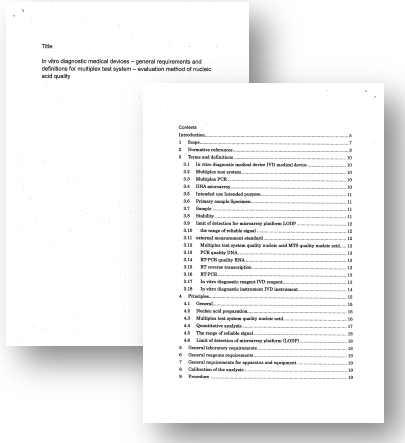
- **An example: spike-in RNA CRM.**
  > synthetic spike-in RNAs (5 types) for RNA expression analysis using NGS/ microarrays
  > The first SI-traceble RNA CRM distributed by NMIJ/AIST (2013-).
  > sequence heterogeneity and purity of the reference materials were evaluated by the established methods in this collaboration.

Reference method development in AIST

- **High-throughput measurement of RNA molecules.**
  > In collaboration with JMAC (Japan MicroArray Consortium) , a method for quality control of RNA expression measurement using microarrays (A set of external reference controls/probes that enable quality assurance between different microarray platforms. Analytical Biochemistry 2014) was made.

  > In collaboration with JMAC and JCCLS (Japanese Committee for Clinical Laboratory Standards), an ISO document “In vitro diagnostic medical devices -General requirements and definition of quality evaluation of nucleic acid for multiplex molecular test-” was proposed by JCCLS (Dr. Miyachi) as PWI in ISO/TC212 (2014.11). AIST has been contributing to the JCCLS committee.

- **On-going: a document in ISO/TC276 Biotechnology**
  > A new PWI to TC276 on “Oligonucleotide Quality Control” (synthetic nucleic acid preparation and evaluation) is in preparation.


Title

In vitro diagnostic medical devices – general requirements and definitions for multiplex test system – evaluation method of nucleic acid quality

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ISO/TC276 Biotechnology

ISO/TC276 Biotechnology was established in February 2014.

The scope of TC276 standardization in the field of biotechnology processes includes the following topics: 1) terms and definitions; 2) Biobanks and bioresources; 3) analytical methods; 4) bioprocessing; 5) data processing including annotation, analysis, validation, comparability and integration; 6) metrology.

The 1st plenary meeting was held in December 2013.

The 2nd plenary meeting was held in May 2014.

The 3rd plenary meeting will be held in Apr 2015.

Working Group 1: Terms and Definition (leader: Dr Pablo Serrano)

Working Group 2: Biobanks and Bioresources (Dr Georges Dagher)

Working Group 3: Analytical Methods (Dr Sheng Lin-Gibson, NIST)

Working Group 4: Bioprocessing (Mr Tatsuo Heki)

The 4 WGs was approved in September 2014.

Dr. Noda (AIST) has been participating TC276 as an expert.

This short presentation

- Overall introduction of a collaborative project in biomeasurement area under MoU between NIST and AIST

  - Thanks Dr. Marc Salit and colleagues in NIST who support our collaborations.
  - Thanks Dr. Takatsuji and colleagues (from international standards promotion division) in AIST for their supports.
  - We appreciate the financial support from the Ministry of International Trade and Industry (METI).