



truCOLLECT™

Collect... Stabilize... Extract...

Whole blood is the most common and the most desirable specimen type for biomarker analysis. However, venepuncture requires stringently controlled sample collection, handling, shipping, and storage. This makes logistics complex, expensive, and difficult to standardize, creating barriers for emerging applications such as Next Gen Sequencing. By delivering unsurpassed sensitivity and quality from finger-stick blood and other non-invasive sampling, truCOLLECT now enables cost-effective, large-scale projects in genomics, proteomics, and, metabolomics. Applications include newborn screening, population genetics, pharmaceutical clinical studies, and animal model testing.

Enable translational research studies

- Self-administered, minimally invasive sample collection
- Detect sensitive biomarkers with less sample
- Stabilize and ship samples throughout the world
- Collect additional samples to achieve more complete studies

Direct sample tracking and biomarker workflow integration

- The blood-absorbing fiber is permanently attached to a 2D barcoded cap
- The unique identifier is maintained throughout the sample processing workflow
- The truCOLLECT system integrates directly into established workflows



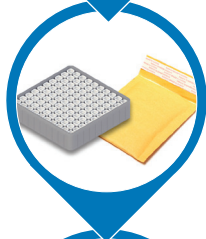
COLLECT AND ID TAG SAMPLE

- High recovery and quality enables a small blood sample (15 and 85 µl)
- The sample is permanently attached to a 2D barcoded cap and the identifier is maintained throughout the workflow



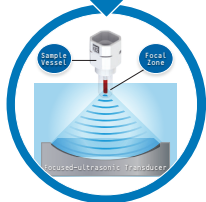
DRY-STABILIZE IN CLOSED VESSEL

- The truCOLLECT cap with fiber is inserted into the desiccant container and sealed
- The sealed container allows for consistent dry-stabilization
- The sealed container also presents sample-to-sample and environment-to-sample contamination



SHIP AND/OR STORE

- All-plastic components for ease of shipping at ambient temperature
- Ship via regular mail, courier, or express mail - no special shipping required
- Containers are also available if long term storage is required (-80° C)



RE-HYDRATE, EXTRACT, AND STABILIZE

- Actively re-hydrate, extract, and chemically stabilize biomarkers using Covaris Adaptive Focused Acoustics (AFA-energetics™)
- Optimized extraction buffers and active AFA processing ensure the efficient release of high quality, clinical-grade biomarkers

truCOLLECT

The truCOLLECT system simplifies blood collection, stabilization, and shipment while generating biomarker yield and quality comparable to conventional methods. In addition to whole blood, truCOLLECT can be used for other specimen types such as saliva and urine.



FROM LEFT TO RIGHT: truCOLLECT cap with fiber, desiccant container, microTUBE (without cap and with cap)

NUCLEIC ACIDS

Whole Genome Coverage depth comparable to fresh blood

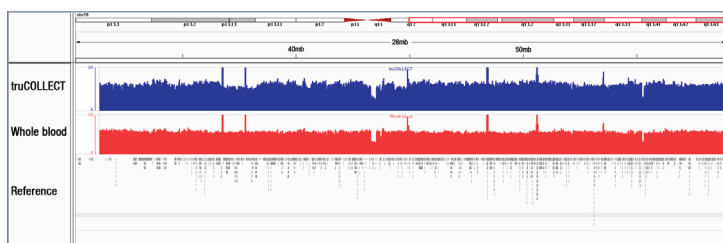


FIGURE 1. Whole genome sequencing coverage depth obtained from truCOLLECT extracted DNA is comparable to the coverage depth obtained from DNA extracted from fresh blood. Analysis indicates greater number of reads sequenced at over the desired 10X coverage with the truCOLLECT extracted DNA.

Consistent coverage depth in gene dense, and GC-rich chromosome 19

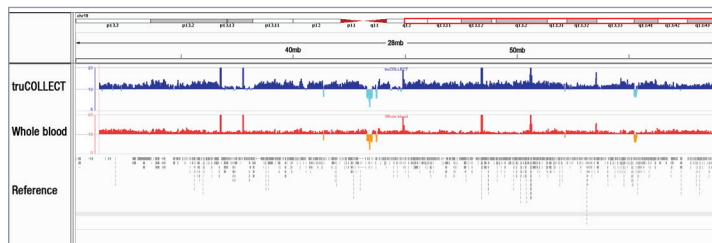
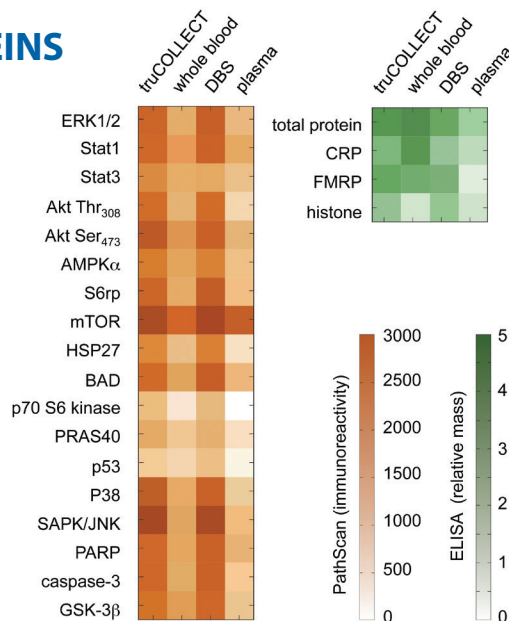


FIGURE 2. DNA extracted from truCOLLECT exhibits greater coverage depth in GC-rich regions of chromosome 19 compared to DNA extracted from whole blood.

PROTEINS



truCOLLECT Consistently Yields Equal or Better Results than Whole Blood and Dried Blood Spots

truCOLLECT delivers the highest yield and quality for proteins. To compare performance with a wide variety of protein classes from different locations, relative immunoreactivity from 15 μ L of blood collected with truCOLLECT was compared to conventional DBS requiring 50 to 100 μ L.

FIGURE 3. Heat maps showing relative yield of total protein and 21 protein biomarkers from truCOLLECT compared to standard dried blood spots (DBS) from Guthrie cards, whole blood, and plasma. Relative immunoreactivity was determined by PathScan multiplex microarray while relative antigen masses were determined by enzyme-linked immunosorbent assay (ELISA). Note that whole blood yielded a higher total protein yield than truCOLLECT but produced lower in assay performance.

PATENTS ISSUED AND PENDING

Part #	Product Name	Description
520184	truCOLLECT-15	Kit contains truCOLLECT cap with fiber, desiccant container, microTUBE™-130, and user manual (10)
520195	truCOLLECT-85	Kit contains truCOLLECT cap with fiber, desiccant container, microTUBE™-500, and user manual (10)

USA: Covaris, Inc. • Tel: +1 781-932-3959 • Fax: +1 781-932-8705 • Email: customerservice@covarisinc.com • Web: www.covarisinc.com

EUROPE: Covaris Ltd. • Tel: +44 (0)845 872 0100 • Fax: +44 (0)845 384 9160 • Email: eucustomerservice@covarisinc.com • Web: www.covarisinc.com

PART NUMBER: M020029 REV C | EDITION MARCH 2016

INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE | FOR RESEARCH USE ONLY | NOT FOR USE IN DIAGNOSTIC PROCEDURES | COPYRIGHT 2016 COVARIS, INC.