

New Product Updates

Next Generation Sequencing (contact John Scott @ IDT: jscott@idtdna.com)

TruGrade™ adaptors for shotgun sequencing, target enrichment oligos and GMP oligos for diagnostic research, IDT can provide the products and controls you need for your next-generation sequencing projects.

Lockdown™ Target Enrichment baits for large sample sets

- Pooled biotinylated 120-mers for hybrid capture targeted enrichment
- Oligos are individually QC'd by Mass Spec then normalized and pooled for superior coverage
- Expandable pools capable of adding on various genes at a later date due to known starting concentrations
- Can process hundreds all the way up to the high 10's of thousands of samples allowing for complete validation and setup as well as sample processing with the same pool
- Ideal for clinical diagnostics and large sample programs
- IDT design service for turn-key enrichment solution

xGen Acute Myeloid Leukemia Cancer Enrichment Panel

The xGen Acute Myeloid Leukemia Cancer Panel is an enrichment probe set for next generation sequencing consisting of 11,743 xGen Lockdown® Probes and targeting variants in 260 genes. These gene variants have been empirically derived through whole genome and exome sequencing of samples taken from 200 patients diagnosed with acute myeloid leukemia (AML). The research was performed by the Genome Institute at Washington University in collaboration with The Cancer Genome Atlas (TCGA) initiative. The panel is built using xGen Lockdown Probes, with performance enhanced by xGen Blocking Oligos.

- High uniformity with >0.2x mean coverage for 98% of genomic targets
- Detect variations reliably with high reproducibility and increased depth of coverage
- Faster time to result using a functionally validated 4-hour hybridization protocol
- Highly relevant for AML-related applications due to empirically derived targets
- Fast turnaround via easy online ordering and next-day shipping

TruGrade is a proprietary processes for virtual elimination of cross contamination on Illumina® or other platform adapters critical for deep sequencing

NGS TruGrade™ Ultramer Service

Up to 200bases, individually synthesized & QC'd
Highest Coupling Efficiency Product (99.5%)
No Purification Needed
75% pure @ 50base length
No Purity Guarantee
Thoroughly analytically tested for cross contamination
Contamination was well under detectable limits of machines

NGS TruGrade™ HPLC Oligo Service

Normal 100nmole Synthesized Research Oligo
Special Procedure and Handling HPLC Purification
Guaranteed 80% Pure

New Product Updates

gBlocks™ Gene Fragments

Description

gBlocks™ Gene Fragments are **125-750 base pairs** of double stranded DNA that is **sequence verified** and provided dried down to the customer. The customer will receive **200 ng of gBlocks for \$89 USD up to 500bp and \$129 USD from 501bp to 750bp USD**. This is enough material for cloning or for a variety of molecular techniques, like qPCR positive controls. gBlocks differ from our Gene and miniGene products because they are not cloned into a vector but are instead sold as **a linear fragment of double stranded DNA**. Like the other gene products, gBlocks have been sequence verified and can be cloned with a very high success rate.

gBlocks™ Gene Fragments are intended to address **lower cost and faster turn-around time** by providing an inexpensive product that can be cloned by the customer into the vector of choice with an expected ship time of 2-3 business days. Support for different cloning methods will be given in the form of a detailed protocol and trained Gene Specialists and Technical Support staff. Knowledge of molecular biology and cloning is required.

gBlocks™ Gene Fragments Applications

gBlocks™ Gene Fragments are designed to be cloned into plasmids using a variety of common molecular techniques. Single gBlocks can be cloned into the customer's vector of choice. Protocols are available for restriction cloning, T/A cloning and blunt cloning with 5'-phosphate ends. Multiple gBlocks can be assembled using the isothermal assembly method demonstrated by Daniel Gibson et al in Nature Methods (see attached publication).

Other uses for gBlocks are as follows:

- Protein Expression
 - Recombinant antibodies
 - Novel fusion proteins
 - Codon optimized short proteins
 - Functional peptides: catalytic, regulatory, binding domains
- microRNA genes
- Template for in vitro transcription (IVT)
- shRNA expression cassettes
- Regulatory sequence cassettes
- Microarray-ready cDNA
- Gene variants and SNPs
- DNA vaccines
- Standards for quantitative PCR and other assays
- Functional Genomics
 - Custom genes offer near limitless flexibility for protein mutagenesis
 - Unrestricted point mutations
 - Mutant libraries
 - Deletion mutants

New Product Updates

PrimeTime® qPCR Primers – for Intercalating Dye Assays

PrimeTime® qPCR Primers provide the same primer pairs found in the IDT PrimeTime qPCR Assays designed to detect genes in human, mouse, and rat transcriptomes. These primer sets are ideal for use with SYBR® Green, EvaGreen®, and other intercalating dyes, where no probe is needed.

Up-to-date sequence design—Primers synthesized at time of order using current sequence information to avoid SNPs and BLAST searched to eliminate off-target effects

Guaranteed performance, high efficiency—qPCR efficiencies average >90% and PCR products consistently yield single bands upon gel analysis

Compatible with popular master mixes—Achieve comparable efficiencies when used with various commercial master mixes under manufacturers' cycling conditions

Easy ordering and sequence information—Simple assay selection interface with sequences provided upon order placement

These pre-designed primer sets eliminate the inconvenience of designing specific assays for intercalating dyes. And since both intercalating dye and probe-based pre-designed assays use the same primers, the transition from discovery to screening is simplified. Test hundreds of transcripts with intercalating dye assays and then upgrade to probe-based assays for improved specificity and performance as sample numbers decrease.

PrimeTime® Pre-designed qPCR Assays – Probe Based

qPCR primers and probe in one tube

Cost Effective – ½ the cost/reaction compared to Taqman®

Performance guaranteed – Every assay exceeds 90% efficiency when measured over four orders of magnitude using a commercial master mix.

Accurate transcript information – Tested against the most up-to-date sequence information available to ensure assay designs avoid all identified SNPs and prevent non-specific amplification. Our database covers 97.4% of human exon junctions. Up-to-date transcript sequence information includes exon boundaries, splice variants and over 30M SNP locations

Flexibility – Select from five different dye-quencher combinations and choose your own primer:probe ratio.

MIQE compliant – Primer and probe sequences are provided with the order.

Zen Probe – Lowest background and best performance available with FAM, HEX, TET, JOE & MAX