

Whole Transcriptome Amplification

TransPlex® Whole Transcriptome Amplification Kit

The TransPlex WTA Kit enables representative amplification of total RNA in less than 4 hours without 3'-bias. Micrograms of amplified DNA products suitable for both qPCR and microarray analyses can be generated from nanograms of starting RNA isolated from various sources such as blood, tissue biopsy, cultured cells, fixed and frozen tissues, or from non-human samples such as bacteria, plants and animals.

The TransPlex WTA process has two steps; library synthesis and library amplification. To synthesize the library sample RNA is incubated with a reverse transcriptase and non-self-complementary primers comprised of a quasi-random 3' end and a universal 5' end. When annealed primers are extended by polymerase, displaced single strands are generated which become new templates for primer annealing and extension. This process creates an OmniPlex® library comprised of random, overlapping 100-1000 base fragments flanked by a universal end sequence. Universal-primer PCR is then used to amplify the OmniPlex® library and produce WTA products.

Features and Benefits

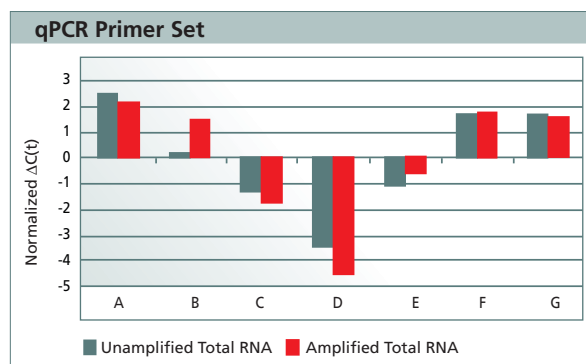
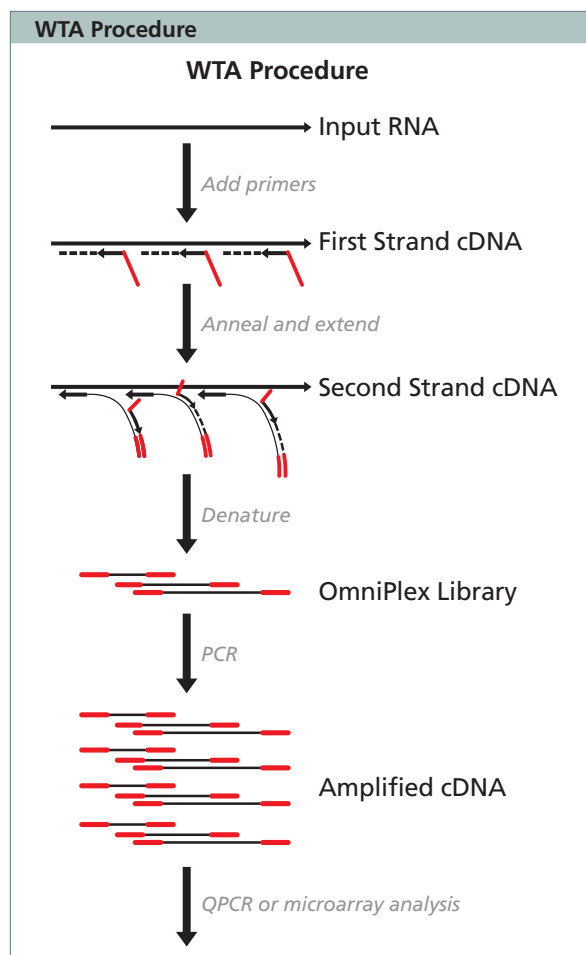
- Achieve 1000–10,000× amplification in less than 4 hours with no more than 30 minutes of "hands on" time required
- Only 5 ng of total RNA is required for a sufficient template to perform microarray profiling
- TransPlex reagents and protocols are optimized to give linear representation of all expressed genes and exons
- Effectively amplifies degraded RNA, including formalin-fixed, paraffin-embedded samples for profiling

Components: WTA Library Synthesis Buffer
WTA Library Stabilization Solution
WTA Library Synthesis Enzyme
WTA Amplification Master Mix
WTA dNTP Mix
Nuclease-Free Water

Storage: -20 °C
Shipped in wet ice

Ordering Information

Cat. No.	Product Description	Quantity
WTA1	TransPlex Whole Transcriptome Amplification (WTA) Kit	10 reactions 50 reactions



qPCR Primer Set. Differential expression of seven mRNAs (cDNAs) in human liver and UHR (Universal Human Reference®) was measured by quantitative PCR. $\Delta C(t)$ values (UHR - Liver) were calculated for unamplified cDNA, prepared directly from RNA by reverse transcription, and amplification product prepared from 25 nanograms of total RNA with the Transplex WTA Kit. (Normalization of $C(t)$ s for liver or brain was accomplished by subtracting the average $\Delta C(t)$ for all primer sets for a given tissue from each tissue-specific $\Delta C(t)$.) Uniformity between unamplified and amplified $\Delta C(t)$ s for individual mRNAs demonstrates maintenance of differential patterns of RNA expression in liver and UHR when using the Transplex WTA Kit.

Universal Human Reference Total RNA is a product of Stratagene.