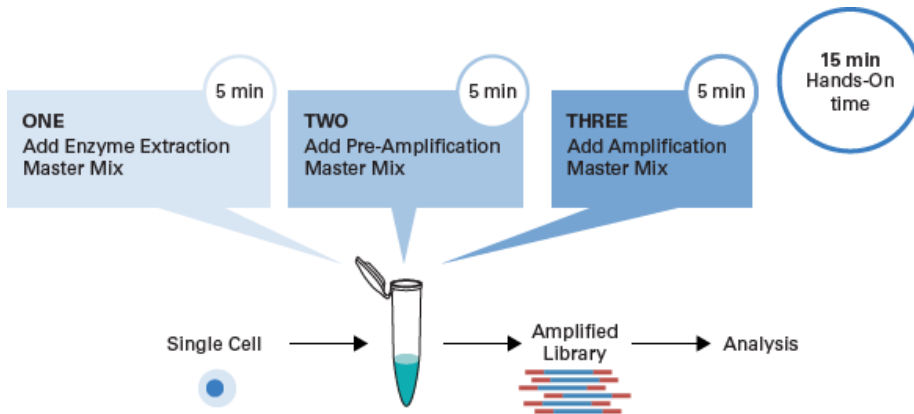


## Whole genome amplification from single cells

- Reproducible results from single cells (or <15 pg DNA)
- Superior reproducibility of allele representation
- Easy to use and automate
- Platform agnostic WGA for qPCR, arrays, and NGS

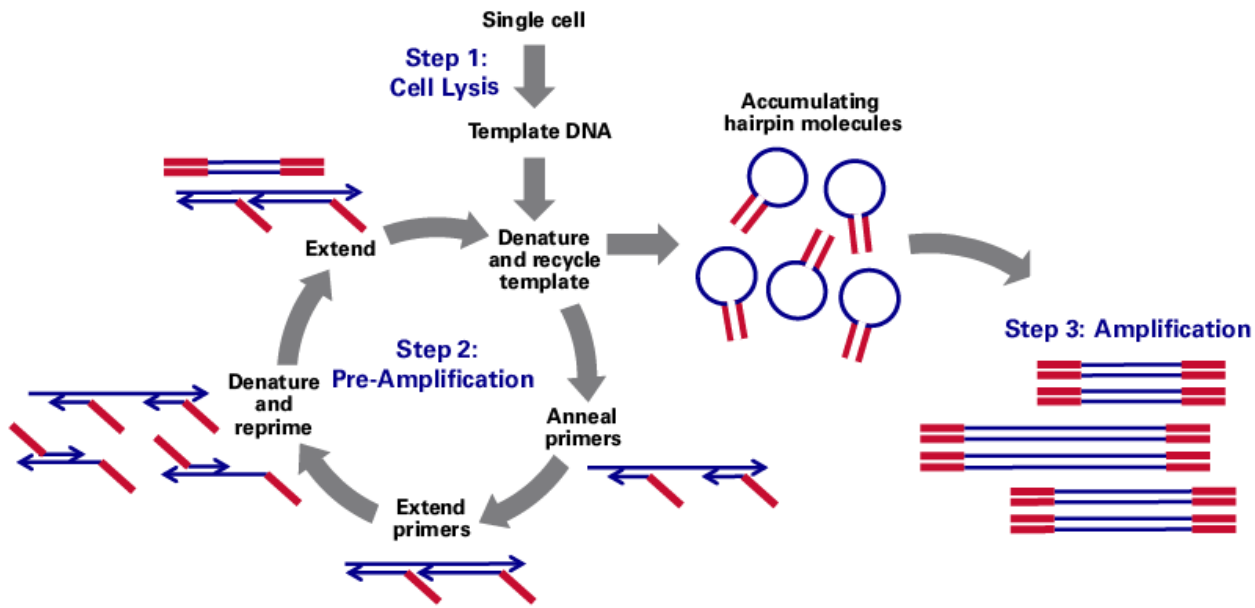
### Introduction

It is now possible to amplify DNA to yield a highly reproducible library from a single cell: PicoPLEX whole genome amplification (WGA) technology is designed and optimized for amplification of single copy genomic DNA starting with a single cell. The easy-to-use single tube protocol reduces handling errors, dramatically improves time to results and reduces background. The [PicoPLEX WGA Kit](#) can also be used with isolated gDNA amounts ranging from less than 6 pg to 50 pg. The workflow has been successfully used in a broad range of applications for qPCR, arrays, and next-generation sequencing.



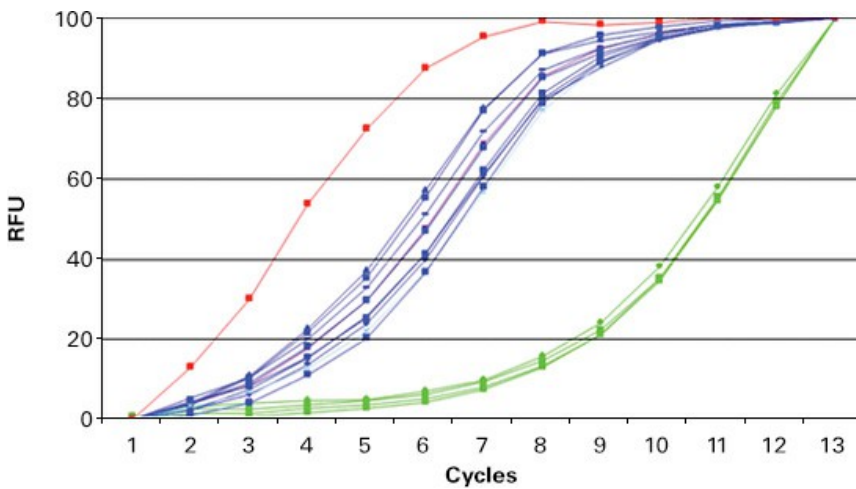
### PicoPLEX technology

A three-step, single-tube reaction starts with lysis of 1–15 cells. The DNA is then used as a template for pre-amplification using a quasi-random priming approach that creates a library of hairpin molecules. These hairpins, in turn, are directly amplified into bulk quantities of DNA that can be used for a wide array of downstream applications.



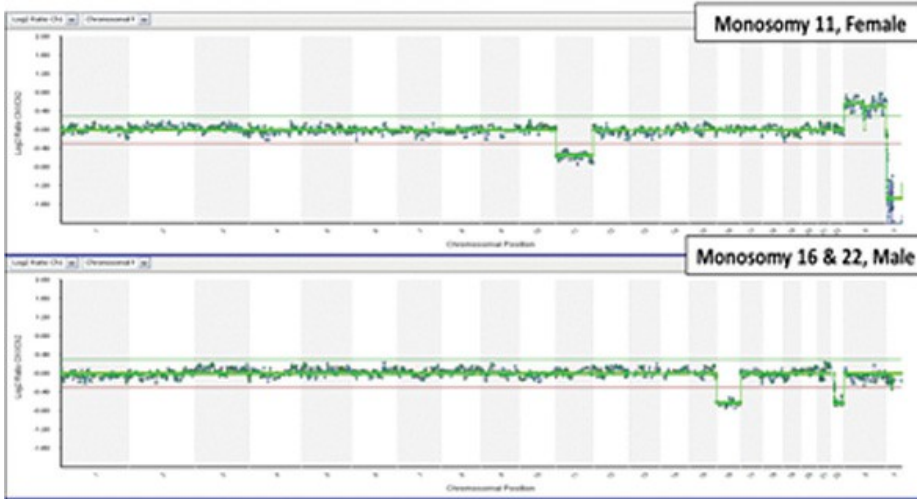
## Reproducible amplification

Flow-sorted cancer cells were amplified with PicoPLEX single cell WGA technology. Each of the cells (blue lines) amplified at the same rate and resulted in a similar, predictable yield. A pooled sample of five cells (red line) represents a positive control. Samples containing 0 cells (green lines; no template control) show very low background.



## Reproducible CNVs

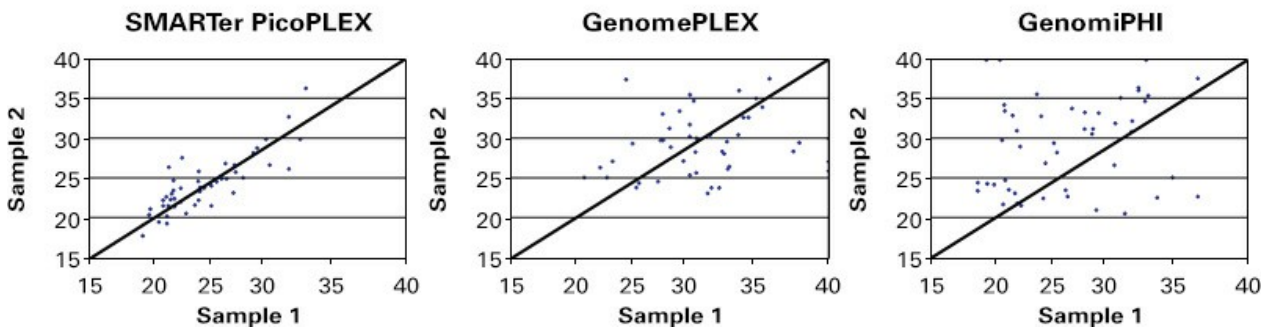
Single-blastomere biopsies were amplified using PicoPLEX single cell WGA technology, labeled, and hybridized to BlueGnome's 24Sure arrays at Genesis Genetics Institute. Note the clear indication of CNVs. In 2011, ESHRE clinical trials confirmed accuracy of karyotyping using PicoPLEX technology.










### Greater reliability



Locus-specific qPCR was used to quantify 48 loci in independent single-cell libraries. Data shown compares results of DNA from two individual samples amplified with (left to right) PicoPLEX single cell WGA technology, GenomePLEX, and GenomiPhi using 10 pg of DNA. More than 90% of the product from the PicoPLEX single cell WGA technology produced identifiable, highly reproducible human sequences.



### Related Products

Cat. #	Product	Size	License	Quantity	Details
R300671	PicoPLEX® Single Cell WGA Kit	24 Rxns		*	
<p>The PicoPLEX Single Cell WGA Kit uses a single-tube protocol developed specifically for reproducible amplification of single-copy genomic DNA (gDNA) starting with 1–10 cells or equivalent picogram quantities of isolated gDNA. Cell lysis and whole-genome preamplification are followed by amplification, which results in libraries with very low background and typical yields of 8–12 µg of product in under 3 hours. This system is best suited for applications in which high yield is most important. This product contains reagents for 24 reactions.</p> <p style="text-align: center;"></p> <div style="display: flex; justify-content: space-around; border: 1px solid #ccc; padding: 5px;"> <span>Documents</span> <span>Components</span> <span>Image Data</span> </div>					
R300672	PicoPLEX® Single Cell WGA Kit	96 Rxns		*	
R300673	PicoPLEX® Single Cell WGA Kit	480 Rxns		*	

[Add to Cart](#)

#### Takara Bio USA, Inc.

United States/Canada: +1.800.662.2566 • Asia Pacific: +1.650.919.7300 • Europe: +33.(0)1.3904.6880 • Japan: +81.(0)77.565.6999

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. © 2023 Takara Bio Inc. All Rights Reserved. All trademarks are the property of Takara Bio Inc. or its affiliate(s) in the U.S. and/or other countries or their respective owners. Certain trademarks may not be registered in all jurisdictions. Additional product, intellectual property, and restricted use information is available at [takarabio.com](https://takarabio.com).