



**ANGLE**

Master Investor Show

**Liquid biopsy from a simple blood test  
enabling personalised cancer care**

Andrew Newland  
23 April 2016



This presentation has been prepared by ANGLE plc (the "Company"). By attending this presentation and/or reviewing the slides you agree to be bound by the following conditions.

The information and opinions contained in this presentation have not been independently verified, are provided as at the date hereof and are subject to amendment, revision and completion without notice. No person is under any obligation to update or keep current the information contained in this presentation. No representation, warranty or undertaking, express or implied, is made by the Company, its advisers or representatives, or their respective officers, employees or agents as to, and no reliance should be placed on, the fairness, accuracy, completeness, correctness or reasonableness of the information or the opinions contained herein. The Company, its advisers or representatives, or their respective officers, employees and agents expressly disclaim any and all liability which may be based on this presentation and any errors therein or omissions therefrom.

This presentation does not constitute or form any part of, and should not be construed as, an offer to sell, or an invitation or solicitation or recommendation to purchase, or subscribe for or underwrite or otherwise acquire any securities in the Company in any jurisdiction and does not constitute or form part of a prospectus. No part of this presentation should form the basis of, or be relied on in connection with, or act as any inducement to enter into, any contract or commitment or investment decision whatsoever. The Company's nominated adviser, Cenkos Securities PLC ("Cenkos") has not approved this document for the purposes of section 21 of the Financial Services and Markets Act 2000 ("FSMA") and accordingly it is a communication made only to persons who (a) fall within one or more of the exemptions from section 21 of FSMA contained in articles 19 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (which includes persons who are authorised or exempt persons within the meaning of FSMA, certain other investment professionals, high net worth companies, unincorporated associations or partnerships and the trustees of high value trusts) and persons who are otherwise permitted by law to receive it and (b) are an "eligible counterparty" within the meaning of Article 24(2), (3) and (4) of Directive 2004/39/EC ("MiFID")) as implemented into national law of the relevant EEA state. Any investment or investment activity to which this document relates is only available to such persons. Persons of any other description, including those who do not have professional experience in matters relating to investments, should not rely on this document or act on its contents for any purpose whatsoever and should return it to Cenkos immediately.

This presentation should not be considered as the giving of investment advice by the Company or any of its shareholders, directors, officers, agents, employees or advisers. Each party to whom this document is made available must make its own independent assessment of the Company after making such investigations and taking such advice as may be deemed necessary. If you are in any doubt in relation to these matters, you should consult your stockbroker, bank manager, solicitor, accountant, taxation adviser or other independent financial adviser (where applicable, as authorised under the Financial Services and Markets Act 2000).

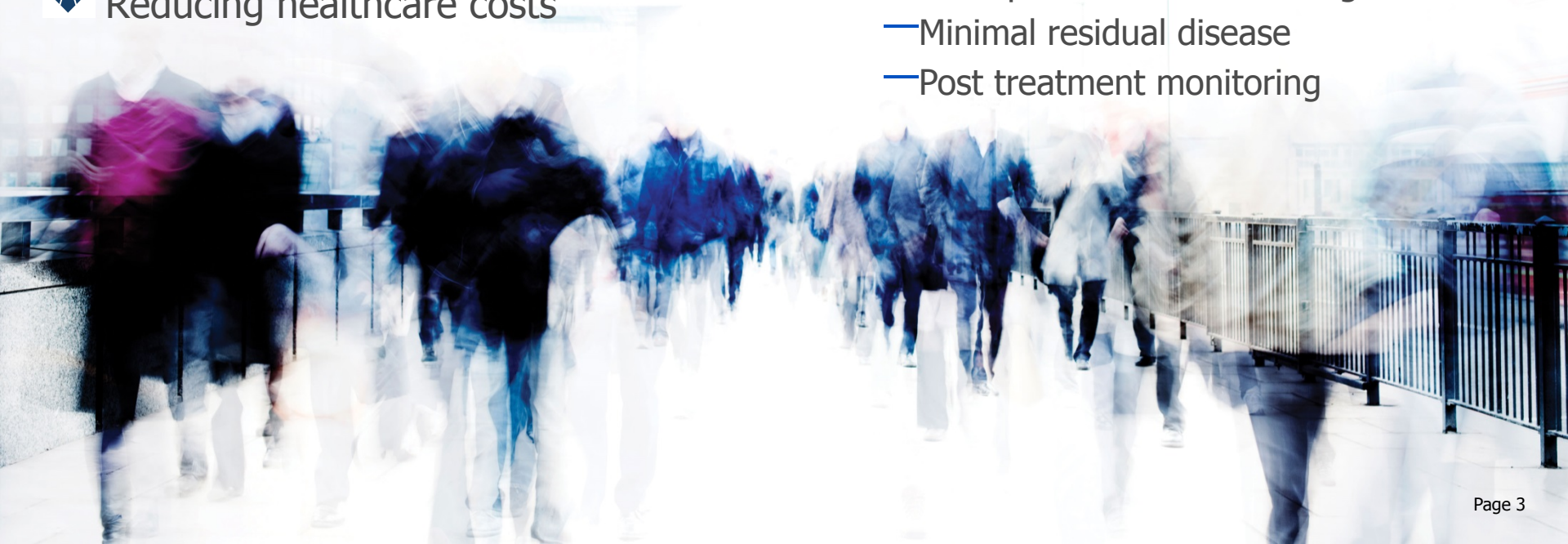
This presentation contains certain statements that are neither reported financial results nor other historical information. These statements include information with respect to the Company's financial condition, its results of operations and businesses, strategy, plans and objectives. Words such as "anticipates", "expects", "should", "intends", "plans", "believes", "outlook", "seeks", "estimates", "targets", "may", "will", "continue", "project" and similar expressions, as well as statements in the future tense, identify forward-looking statements. These forward-looking statements are not guarantees of the Company's future performance and are subject to assumptions, risks and uncertainties that could cause actual future results to differ materially from those expressed in or implied by such forward-looking statements. Many of these assumptions, risks and uncertainties relate to factors that are beyond the Company's ability to control or estimate precisely and include, but are not limited to, the general economic climate and market conditions, as well as specific factors including the success of the Group's research and development and commercialisation strategies, the uncertainties related to regulatory clearance and the acceptance of the Group's products by customers.

For further details regarding these and other assumptions, risks and uncertainties that may affect the Group, please read the Directors' Report section including the "Principal risks and uncertainties" in the most recent Annual Report & Accounts of ANGLE plc. In addition, new factors emerge from time to time and the Company cannot assess the potential impact of any such factor on its activities or the extent to which any factor, or combination of factors, may cause actual future results to differ materially from those contained in any forward-looking statement. Except as may be required by law or regulation, the Company undertakes no obligation to update any of its forward-looking statements, which speak only as of the date of this document.

## Precision medicine: Right drug for the right patient at the right time

Cancer Research UK: "One in two people born after 1960 in the UK will be diagnosed with some form of cancer during their lifetime."

- ❖ Each patient's cancer is different
- ❖ Patient's cancer changes over time
- ❖ Effective treatment requires personalised care
- ❖ Reducing healthcare costs
- ❖ Market for liquid biopsy US\$14bn in the US alone by 2025 (Goldman Sachs)
- ❖ Four key market segments
  - Diagnostic screening
  - Therapeutic decision-making
  - Minimal residual disease
  - Post treatment monitoring





# Parsortix™ and the advantages of CTCs for liquid biopsy

## Solid Biopsy

## Liquid Biopsy

		Primary Tumor	Metastatic	ctDNA <sup>1</sup>	CTCs <sup>2</sup>
Sample Type		Intact cells	Intact cells	Fragmented DNA	Intact cells
Accessibility		Invasive Not always accessible	Invasive Not always accessible	Non-invasive <sup>3</sup> Accessible	Non-invasive <sup>3</sup> <b>Accessible using Parsortix<sup>4</sup></b>
Repeatability		Difficult	Difficult	Easy	Easy
Molecular analysis	DNA RNA Protein	Yes Yes Yes	Yes Yes Yes	Yes Difficult No	Yes Yes Yes
Live cells	Cell culture Xenograft	Yes Yes	Yes Yes	No No	Yes Yes

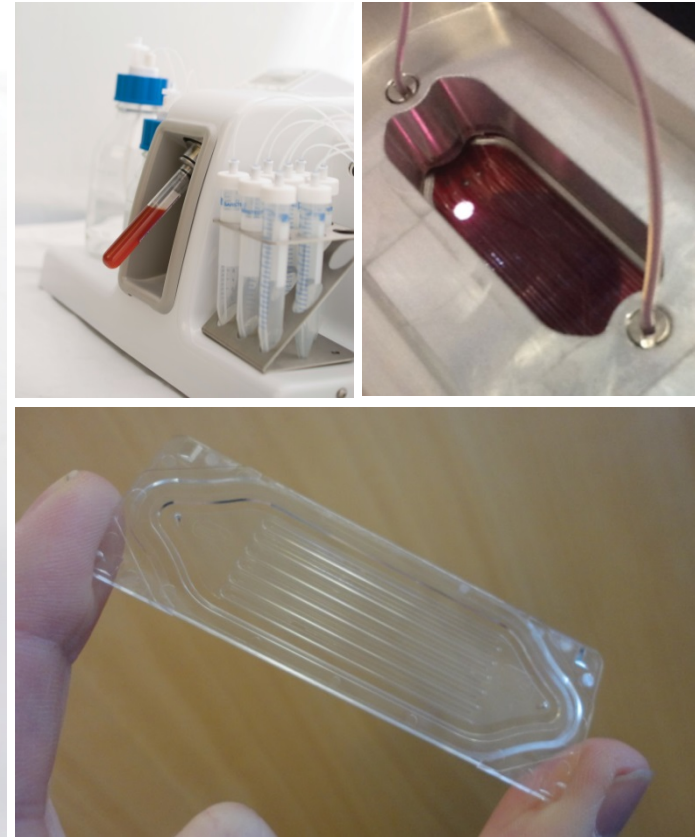
### ❖ Liquid biopsy comprises ctDNA and CTCs

- CTCs are whole cells, which provide cellular morphology, full genetic information including DNA, RNA and protein expression and the ability to grow cells outside patient. CTCs are highly clinically relevant as they cause the secondary cancer metastases
- ctDNA are DNA fragments of dead cells and can only be analysed for DNA. ctDNA may provide less clinically relevant information as it originates from dead cells

### ❖ ANGLE's Parsortix™ system provides a unique product based solution where others are offering only a laboratory-service based approach

ANGLE is offering customers a Parsortix system for purchase comprising a desktop instrument and a one-time use consumable. Many competitor systems are so complicated that they have to offer a CLIA (certified laboratory) solution where the customer sends them the sample and they operate the system and provide a result. This approach is commercially less attractive as it requires large in-house investment, is less scalable and deprives the clinical customer of much needed revenue in processing the samples.

# ANGLE's patented Parsortix system

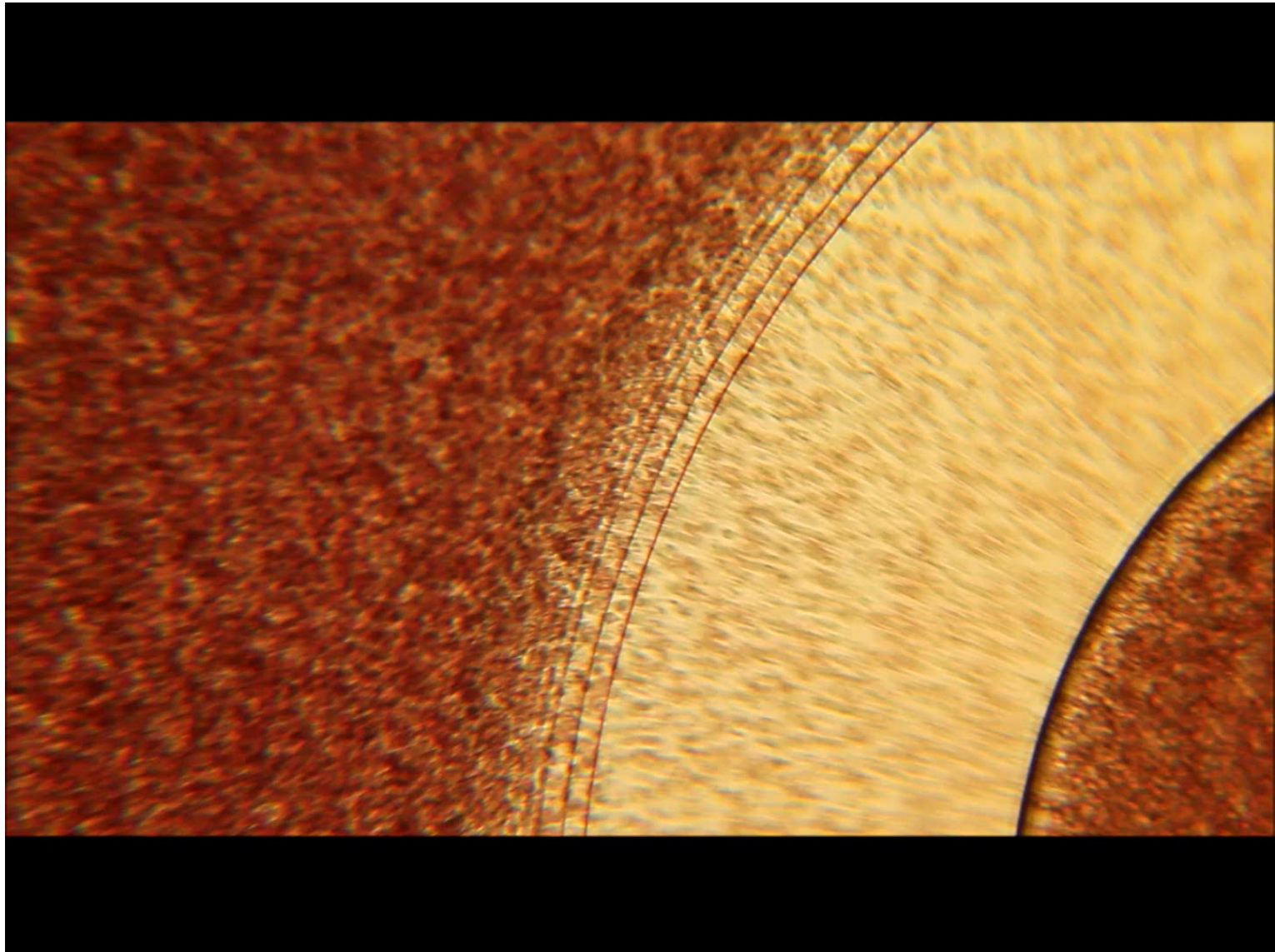


- ◆ Stepped, microscale cell separators for fluid flow and cell separation
- ◆ Granted patents to 2034: US, Europe, China, Canada and Australia
- ◆ Manufactured ISO13485 quality control system
- ◆ European CE mark

## Animation showing Parsortix patented steps



## Video showing blood flowing in Parsortix cassette



## Research use sales

- ❖ Research use sales growing
  - sales to multiple customers of both Parsortix instruments and cassettes
  - customers include both new research users and existing KOLs
  - growing sales pipeline
- ❖ Research use sales market £250m p.a.
  - 750 addressable Phase II cancer drug trials p.a. revenue potential £100k / trial
  - 120 addressable Phase III cancer drug trials p.a. revenue potential £750k / trial
- ❖ Targeting sales to leading cancer centres
  - revenues
  - broaden range of users of the system additional posters, publications and clinical evidence
  - new clinical applications and companion diagnostics

	Machine	Cassette
Price <sup>1</sup>	£40,000	£150
Cost	£12,000 <sup>2</sup>	£17
Margin	70%	89%
1. High margins allow flexibility in pricing for competitive advantage		
2. Includes maintenance, technical support, sales and distribution		

### Major pharma developing more selective drugs

- Colorectal cancer KRAS- Erbitux (Merck Serono)
- Lung cancer EGFR+ Iressa (AstraZeneca)
- Breast cancer HER2+ Herceptin (Genentech)



- ❖ Seeking to be first FDA authorised system for harvesting cancer cells from blood
  - full-time FDA experienced clinical studies director
  - detailed study plans have been developed and reviewed with the FDA
- ❖ FDA authorisation of the system first for metastatic breast cancer with ovarian cancer and other cancer types to follow
  - breadth of authorisation to provide flexibility in clinical deployment, allowing a range of downstream analytical procedures
  - base authorisation to which (i) additional cancer types and (ii) specific clinical uses can be added facilitating roll out across a wide range of applications
- ❖ Three world-leading US cancer centres selected
  - patient accrual and clinical evidence to secure the FDA authorisation
  - major customers in the future
  - Key Opinion Leaders in securing uptake of the Parsortix system once FDA secured
- ❖ Approach adopted provides a strong competitive advantage

# Ovarian cancer detection: triaging for pelvic mass surgery

## Medical University of Vienna

- ❖ Highly successful patient study
  - 100% specificity in primary epithelial ovarian cancer (no false positives)
  - 78/80% sensitivity with 7 RNA markers
  - 100% sensitivity with 30 RNA markers
- ❖ Parsortix results “sensational”
  - best CTC alternative only 24.5% sensitivity
- ❖ Clinical application in triaging patients with abnormal pelvic mass
  - to identify those at high risk of ovarian cancer
  - in US, 200,000 women p.a. have surgery on abnormal pelvic masses c. 10% have cancer
  - Medicare reimbursement of \$516/test
- ❖ Ovarian sales potential >£300m p.a.

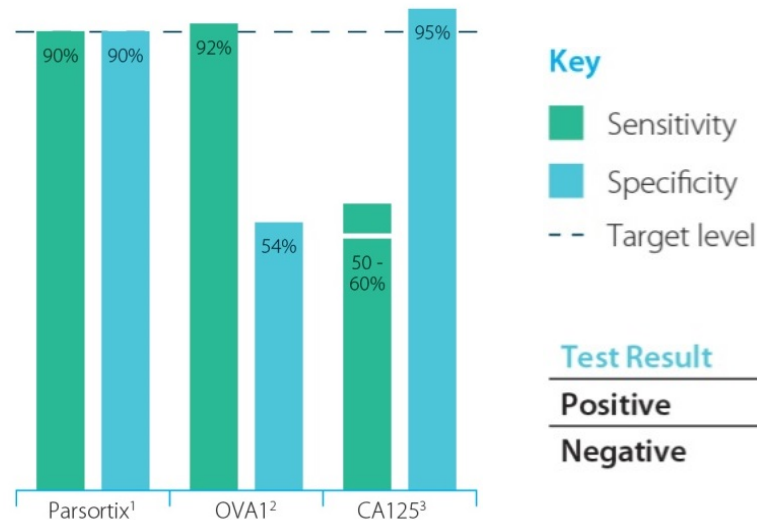
## Parsortix effectiveness compared to other tests

### Sensitivity

The test correctly identifies those with the disease (true positive). A low sensitivity means the test may miss many people who have cancer (false negative).

### Specificity

The test correctly identifies those without the disease (true negative). A low specificity means patients are told they may have the disease when they do not (false positive).



	Cancer	No cancer
Test Result	Sensitivity	Specificity
Positive	True Positive	False Positive
Negative	False Negative	True Negative

1 Target for clinical studies  
 2 Verillion Inc  
 3 Patient.co.uk / Fritsche HA, et al. (1998). CA-125 in ovarian cancer: advances and controversy. Clinical Chemistry. 44(7):1379-1380

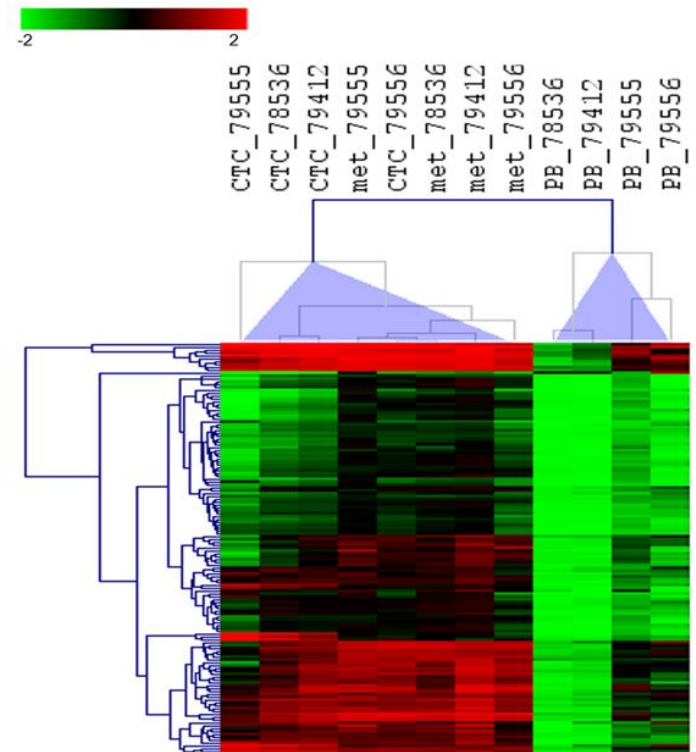
## Non-invasive prostate biopsy

- ❖ Barts Cancer Institute new results
  - detected 100% of the metastatic prostate cancer patients
  - Detected 75% early stage including “active surveillance”
  - number of mesenchymal CTCs harvested good correlation to Gleason score
  - metastatic or localised: higher level of accuracy than Gleason score
- ❖ Simple blood test before solid biopsy test
  - detect prostate cancer
  - assess the aggressiveness of the disease
  - patient risk stratification – differentiate between active surveillance (indolent) or intervention (aggressive)
- ❖ Avoid unnecessary and potentially harmful solid biopsy and surgical intervention
  - Over 1 million solid prostate biopsies per annum in US alone
  - 75-80% no cancer and over 50% with cancer “watchful waiting” / “active surveillance”
  - only 10% with cancer that needs treatment
  - painful, may miss the cancer and can cause infection

# Metastatic breast cancer liquid biopsy

University of Southern California Norris Comprehensive Cancer Center

- ❖ CTCs harvested for RNA Seq analysis in 100% of patients
- ❖ CTCs from Parsortix liquid biopsy had statistical significant correlation of gene expression to the traditional biopsy of cancer cells from metastatic sites in all cases (n=8)
- ❖ Parsortix liquid biopsy also provides additional clinical information beyond the biopsy of a single metastatic site
- ❖ Simple blood test: better for patient, repeatable, more effective and cheaper



Hierarchical two dimensional heat map of 214 genes differentially expressed in CTC and met vs peripheral blood.



Parsortix™ patented system provides cells for precision medicine changing the paradigm in a \$ billion emerging market

- ❖ High performance in ovarian, prostate, breast and lung cancers
- ❖ Growing research use sales with a clear competitive advantage
- ❖ CE Mark authorised. FDA authorisation in process
- ❖ Ovarian cancer first clinical application in development

~~MD Anderson  
Cancer Center~~



## Contact details



### **Andrew Newland**

ANGLE plc

3 Frederick Sanger Road

The Surrey Research Park

Guildford GU2 7YD

United Kingdom

Tel: +44 1483 685830

Email: [andrew.newland@ANGLEplc.com](mailto:andrew.newland@ANGLEplc.com)

Website: [www.ANGLEplc.com](http://www.ANGLEplc.com)

3711 Market Street

University Science Center 8<sup>th</sup> floor

Philadelphia PA 19104

USA

+1 (267) 265 6761