

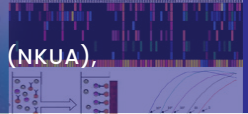
STEPUPIORS SUMMER SCHOOL "LIQUID BIOPSY TECHNOLOGIES"

ATHENS, SEPT 30 – OCT 04, 2024

ACTC LAB



Venue: ACTC lab, Dept. of Chemistry,
National and Kapodistrian University of Athens (NKUA),
Athens, Greece



Organizers:

Evi Lianidou, ACTC lab, Dept. of Chemistry, National and Kapodistrian University of Athens (NKUA), Greece, Hellenic Society of Liquid Biopsy
STEPUPIORS Horizon Europe Project – 101079217



Funded by
the European Union

Organizing Committee:

Evi Lianidou, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens, Athens, Greece, President of the Hellenic Society of Liquid Biopsy

Milena Cavic, Principal Research Fellow, Department of Experimental Oncology, Institute for Oncology and Radiology of Serbia (IORS), Belgrade, Serbia; President of the Serbian Association for Cancer Research; STEPUPIORS Coordinator

Remond Fijneman, Associate Group Leader, Department of Pathology, The Netherlands Cancer Institute–Antoni van Leeuwenhoekziekenhuis (NKI AVL), Amsterdam, The Netherlands; STEPUPIORS NKI AVL PI

Ieronymos Makis Zoidakis, Ass. Professor, Department of Biology, National and Kapodistrian University of Athens (NKUA), The Biomedical Research Foundation of the Academy of Athens (BRFAA), Athens, Greece; STEPUPIORS BRFAA PI

Sergi Castellví-Bel, Genetic Predisposition to Gastrointestinal Cancer Group, FRCB-IDIBAPS/CIBERehd / Hospital Clínic, Barcelona, Spain; STEPUPIORS FRCB-IDIBAPS PI

Tutors:

Athina Markou, PhD, Ass. Professor, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens

Aliki Ntzifa, PhD, Post-Doctoral Research Associate, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens

Stavroula Smilkou, PhD, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens

Elena Thanou, MSc, PhD student, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens

Elina Lagopodi, MSc, PhD student, ACTC lab, Dept of Chemistry, National and Kapodistrian University of Athens

Miljana Tanic, PhD, Senior Research Associate, Department of Experimental Oncology, Institute for Oncology and Radiology of Serbia, Belgrade, Serbia

Paul Van der Leest, PhD, Department of Laboratory Medicine, The Netherlands Cancer Institute–Antoni van Leeuwenhoekziekenhuis, Netherlands

Day 1: Monday Sep 30th

8:30 – 9:00

REGISTRATION

Online participation – Please register in advance for this meeting:



LECTURES

LIQUID BIOPSY – INTRODUCTORY LECTURES

Evi Lianidou: Welcome address, outline of the workshop
STEPUPIORS PIs: welcome address

9.00– 9.30

Liquid Biopsy: an introduction | E. Lianidou

9.30–10.00

Liquid biopsy: an overview in Serbia | M. Tanic

10.00 – 10.30

ctDNA applications in colorectal cancer | R. Fijneman

10.30– 11.00

Coffee break

11.00 – 11.30

CTC: an overview of enrichment technologies | A. Markou

11.30– 12.00

CTC: enumeration and phenotypic characterization | S. Smilkou

12.00 – 12.30

CTC: molecular characterization | A. Markou

12.30– 13.30

Light Lunch

13.30–14.00

ctDNA: mutation detection / PCR, NGS | A. Markou

14.00 – 14.30

ctDNA: methylation analysis /MSP, cfMeDIP | A. Ntzifa

14.30–15.00

The technical possibilities of droplet digital PCR analyses | P. Van der Leest

15.00 – 15.30

Pre-analytical aspects and Quality Control in liquid biopsy applications: How important is it?? | A. Ntzifa

15.30–16.00

Coffee break

16.00 – 16.30

Presentation of lab experiments: Station #1

A. Ntzifa (Parsortix), S. Smilkou (CellSearch)

16.30 – 17.00

Presentation of lab experiments: Station #2 | E. Thanou, E. Lagopodi

17.00 – 17.30

Presentation of lab experiments: Station #3 |

A. Markou, P. Van der Leest (ddPCR) A.Ntzifa (Cobas)

17.30 – 18.30

STEPUPIORS Consortium meeting | Project members

SUMMER SCHOOL ON LIQUID BIOPSY TECHNOLOGIES SEPT 30 – OCT 04, 2024

Day 2: Tuesday October 1st

10.00 am – 18.00pm

STATION #1 / GROUP 1

Tutors: 2 ACTC lab members

Aliki Ntzifa (Parsortix)

Stavroula Smilkou (CellSearch)

Parsortix: size-based CTC enrichment

CTC analysis: preanalytical issues

(paper M. Zavridou, Clin Chem, 2018)

CTC analysis: quality control, ring

study ELBS

CellSearch: CTC enumeration: 1h

CellSearch: ISO-15189

CTC: discussion on photo galleries,

ACCEPT: 2h

STATION #3/ GROUP 3

Tutors: 2 ACTC lab members,

1 NKI AVL lab member

Athina Markou, Paul Van der Leest (ddPCR)

Aliki Ntzifa (Cobas)

Cell free DNA isolation from plasma

(Qiagen kit): 2h

Quantitation of cfDNA (Nanodrop, Cubit): 30min

Mutation detection in cfDNA: ddPCR: 3.5 h

Mutation detection in CTCs, ddPCR

Mutation detection in cfDNA:

cf-DNA isolation: 1.5h

EGFR mutations, Cobas: 2.5 h

STATION #2 / GROUP 2

Tutors: 2 ACTC lab members

Elena Thanou

Elina Lagopodi

CTC enrichment from peripheral blood: 3h

Positive immunomagnetic isolation using

EpCAM beads

RNA isolation from CTCs: 1.5 h

cDNA synthesis (ready RNAs): 30 min / 2.5h

Gene expression in CTCs using RT-qPCR

(CK-19, B2M): ready cDNAs, from MCF-

7, samples HD, breast cancer patients

LightCycler

Two Coffee breaks

(at different times, depending on the experiments)

13.00 – 14.00: Lunch break

SUMMER SCHOOL ON LIQUID BIOPSY TECHNOLOGIES SEPT 30 – OCT 04, 2024

Day 3: Wednesday October 2nd

10.00 am – 18.00pm

STATION #1 / GROUP 2

Tutors: 2 ACTC lab members

Aliki Ntzifa (Parsortix)

Stavroula Smilkou (CellSearch)

Parsortix: size-based CTC enrichment

CTC analysis: preanalytical issues

(paper M. Zavridou, Clin Chem, 2018)

CTC analysis: quality control,

ring study ELBS

CellSearch: CTC enumeration: 1h

CellSearch: ISO-15189

CTC: discussion on photo galleries,

ACCEPT: 2h

STATION #3/ GROUP 1

Tutors: 2 ACTC lab members,

1 NKI AVL lab member

Athina Markou, Paul Van der Leest (ddPCR)

Aliki Ntzifa (Cobas)

Cell free DNA isolation from plasma

(Qiagen kit): 2h

Quantitation of cfDNA (Nanodrop, Cubit): 30min

Mutation detection in cfDNA: ddPCR: 3.5h

Mutation detection in CTCs, ddPCR

Mutation detection in cfDNA:

cf-DNA isolation: 1.5h

EGFR mutations, Cobas: 2.5 h

STATION #2 / GROUP 3

Tutors: 2 ACTC lab members

Elena Thanou

Elina Lagopodi

CTC enrichment from peripheral blood: 3h

Positive immunomagnetic isolation using

EpCAM beads

RNA isolation from CTCs: 1.5 h

cDNA synthesis (ready RNAs): 30 min / 2.5h

Gene expression in CTCs using RT-qPCR

(CK-19, B2M): ready cDNAs, from MCF-

7, samples HD, breast cancer patients

LightCycler

Two Coffee breaks (at different times,
depending on the experiments)

13.00 – 14.00: Lunch break

SUMMER SCHOOL ON LIQUID BIOPSY TECHNOLOGIES SEPT 30 – OCT 04, 2024

Day 4: Thursday October 3rd

10.00 am – 18.00pm

STATION #1 / GROUP 3

Tutors: 2 ACTC lab members:

Aliki Ntzifa (Parsortix)

Stavroula Smilkou (CellSearch)

Parsortix: size-based CTC enrichment

CTC analysis: preanalytical issues

(paper M. Zavridou, Clin Chem, 2018)

CTC analysis: quality control,

ring study ELBS

CellSearch: CTC enumeration: 1h

CellSearch: ISO-15189

CTC: discussion on photo galleries,

ACCEPT: 2h

STATION #2 / GROUP 1

Tutors: 2 ACTC lab members

Elena Thanou

Elina Lagopodi

CTC enrichment from peripheral blood: 3h

Positive immunomagnetic isolation using

EpCAM beads

RNA isolation from CTCs: 1.5h

cDNA synthesis (ready RNAs): 30 min / 2.5h

Gene expression in CTCs using RT-qPCR

(CK-19, B2M): ready cDNAs, from MCF-

7, samples HD, breast cancer patients

LightCycler

STATION #3 / GROUP 2

Tutors: 2 ACTC lab members,

1 NKI AVL lab member

Athina Markou, Paul Van der Leest (ddPCR)

Aliki Ntzifa (Cobas)

Cell free DNA isolation from plasma

(Qiagen kit): 2h

Quantitation of cfDNA (Nanodrop, Cubit): 30min

Mutation detection in cfDNA: ddPCR: 3.5h

Mutation detection in CTCs, ddPCR

Mutation detection in cfDNA:

cf-DNA isolation: 1.5h

EGFR mutations, Cobas: 2.5 h

Two Coffee breaks (at different times,
depending on the experiments)

13.00 – 14.00: Lunch break

Day 5: Friday October 4th

9.00– 10.00 Summer school final exam

10.00–18.30 Hellenic Society of Liquid Biopsy

One day Conference

“LIQUID BIOPSY: Latest advances

and applications in oncology”

Registration (free) and
program available at:

