

2021 2023

7

2021-01-07-00-02-E00091			2021	300
2021-01-07-00-02-E00090		Christopher Heeschen	2021	300
2021-01-07-00-02-E00139	mtDNA		2021	100
2023ZKZD21			2023	300
2023ZKZD22	" "		2023	300
2023ZKZD23			2023	300
2023ZKZD24			2023	300

7

1.

2021

	Nature Communication	Lancet Oncol.	Blood
Nature Genetics		19	4
3	6	6	
As4S4		A	BCR::ABL-WT
T315I			
IIA			
			Ph-ALL
	BCR::ABL	-catenin	MYC
survivin			
	ph+ALL		
	CCCG2015		Ph+
CCCG2020		TKI	ALL
	2023	12	131.625

91.014336

69.15%

2.

Christopher Heeschen

2021

Christopher Heeschen

20

Engl J Med, Nat Med, Nat

Methods, Cancer Cell, Cell Stem Cell, Cell Metabolism, J Exp Med, J

Clin Invest, Lancet, PNAS

150

Christopher Heeschen

2019

10

1

2

2

3

2

3

rVAR2-

ofCS-Carprin

CTC

	in silico		CSCs	
2023	6		2022	
				3
JECCR	BBA	EJC		
			300	176.4
		95.69	2023	44.1
	53.54			
3.		mtDNA		
		2021		
				2017
				"
	"	"	"	
	1	4	4	3

mtDNA

50%

1%

DNA

DNA

mtDNA

mtDNA

13

2

2

2

1-2

mtDNA

40%

4.

2023

2023

" 2030 " " - "

WH510363002/006 30

" "

CryoEM

RJ0575

2

2

2023

2023

ELAVL3 DDC

MYCN SOX2

PI3K/Akt/mTOR

5-

Nature Communications

7.

2023

6

10

1

NF- B

GATA4 DNA

GATA4

Cell Reports

Medicine 2023

2

207

-

104

103

10-12

EMBO Molecular Medicine 2023

3

5

2023

60

2024 2 18 -2024 2 22

15802135763/63846590-776351

2024 2 17