

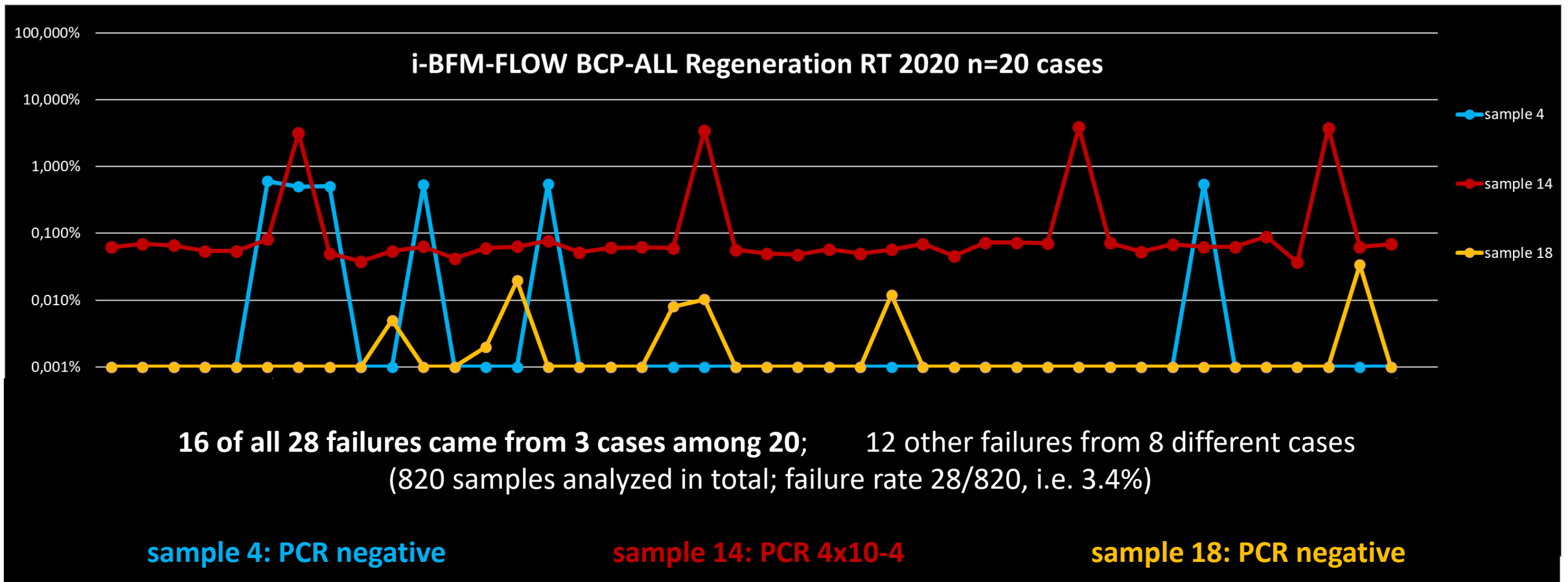
Ring trials – LMD file send-arounds

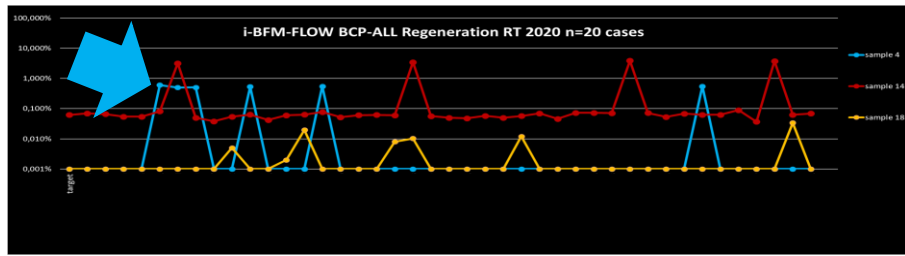
Analysis of problematic cases

Educational Slides

BCP - REGENERATION LMD MRD trial 2020 (RT9)

Analysis of problematic cases





Case 4

RQ-PCR neg

Target vote: **negative**



Problem:

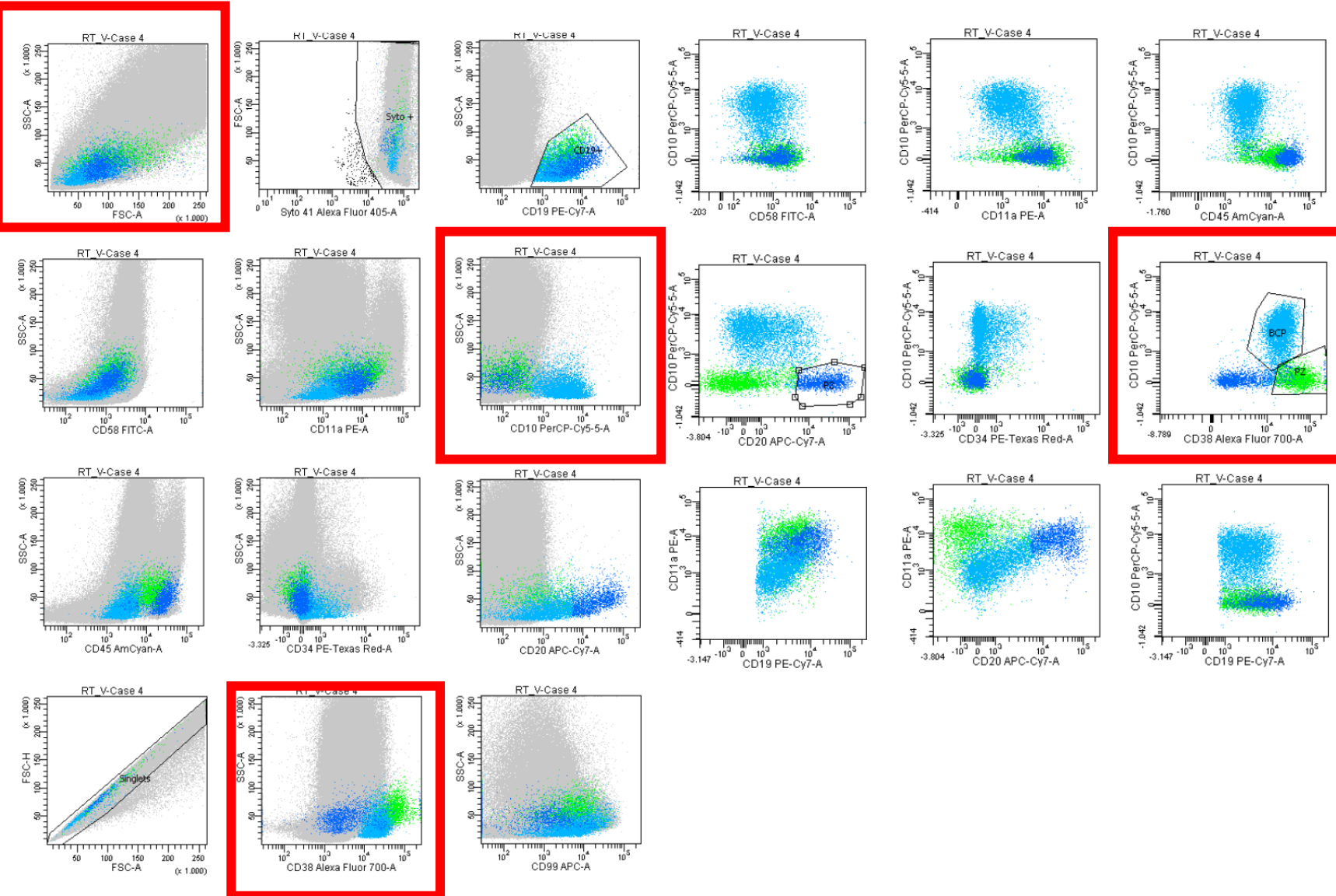
Strong early BCP 1 & 2-regeneration; few mature BCP3

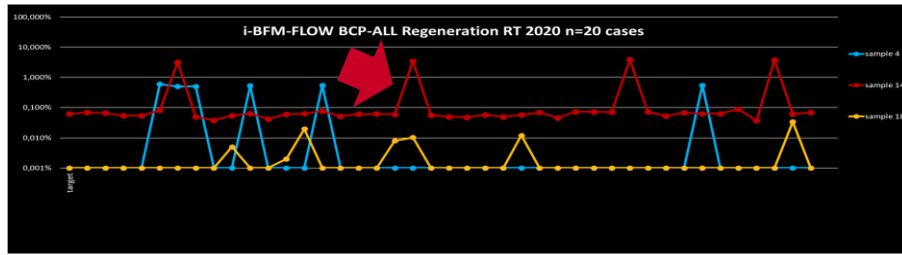
CD34 dim/negative

Solution:

mind very compact patterns
e.g. in CD38, CD45, FSC

No aberration in any marker (except CD34)

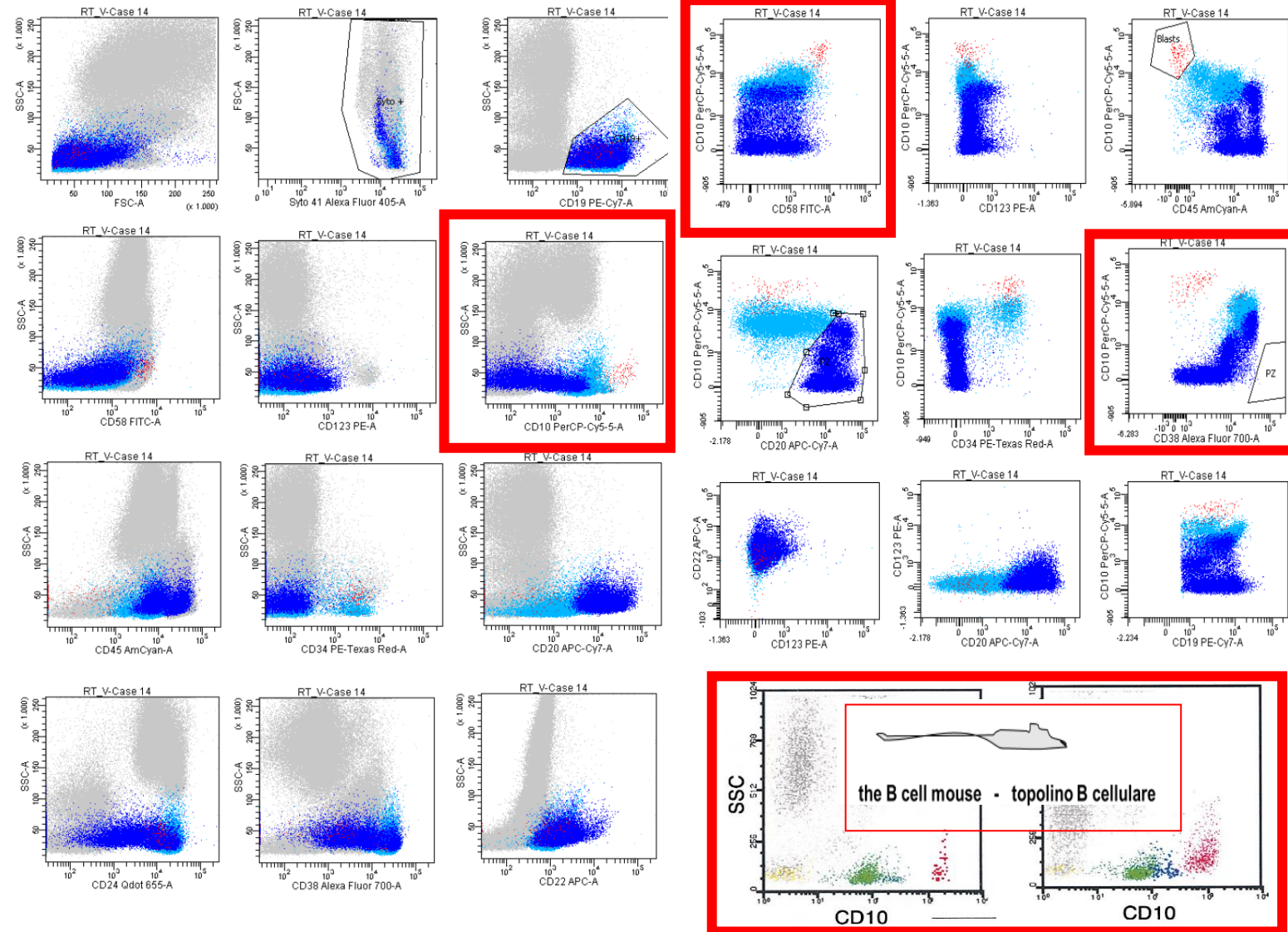




Case 14

RQ-PCR 4×10^{-4}

Target vote: **positive 0.062%**



Problem:

Heavy regeneration

*Coexistence of **blasts** & BCP*
Mature BCP „echo“ population

Solutions: MANY

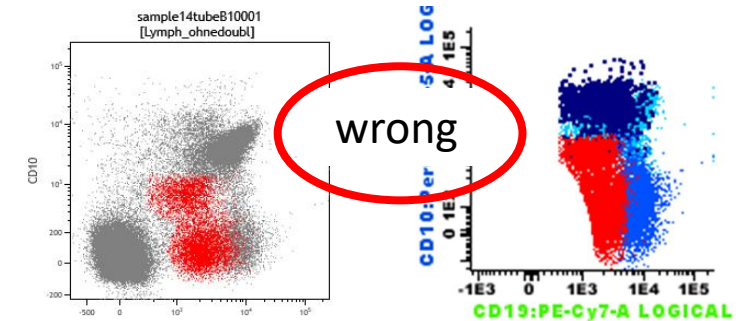
CD10 overexpression

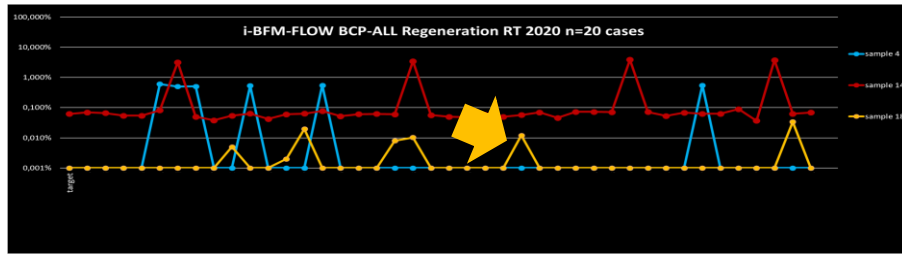
SSC elevated

CD19 higher than BCP 1&2

CD38 & CD45 too low

CD58 overexpression

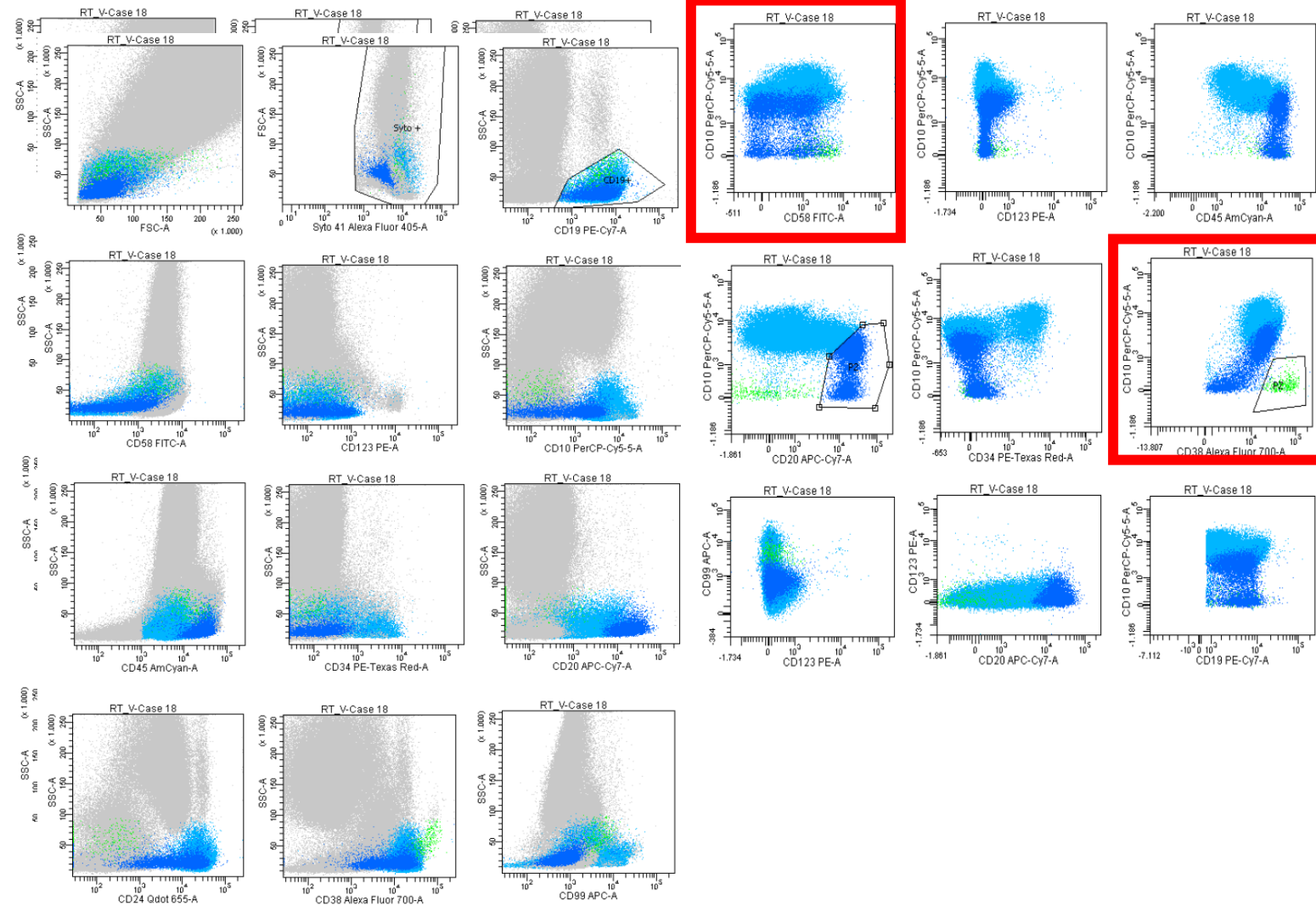




Case 18

RQ-PCR neg

Target vote: **negative**



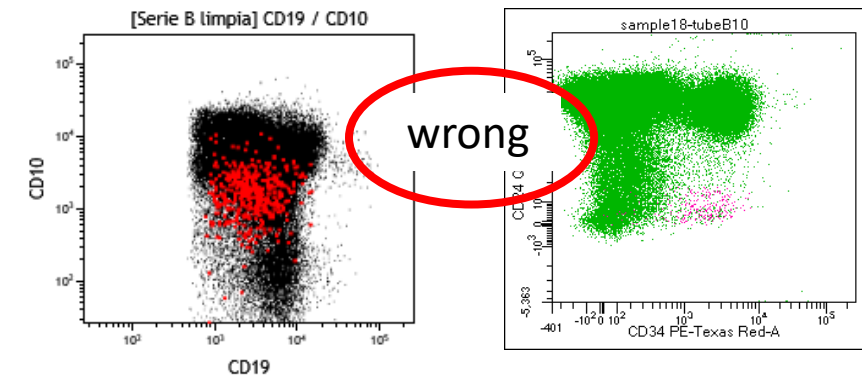
Problem:

Strong early BCP 1 & 2-regeneration

Solution:

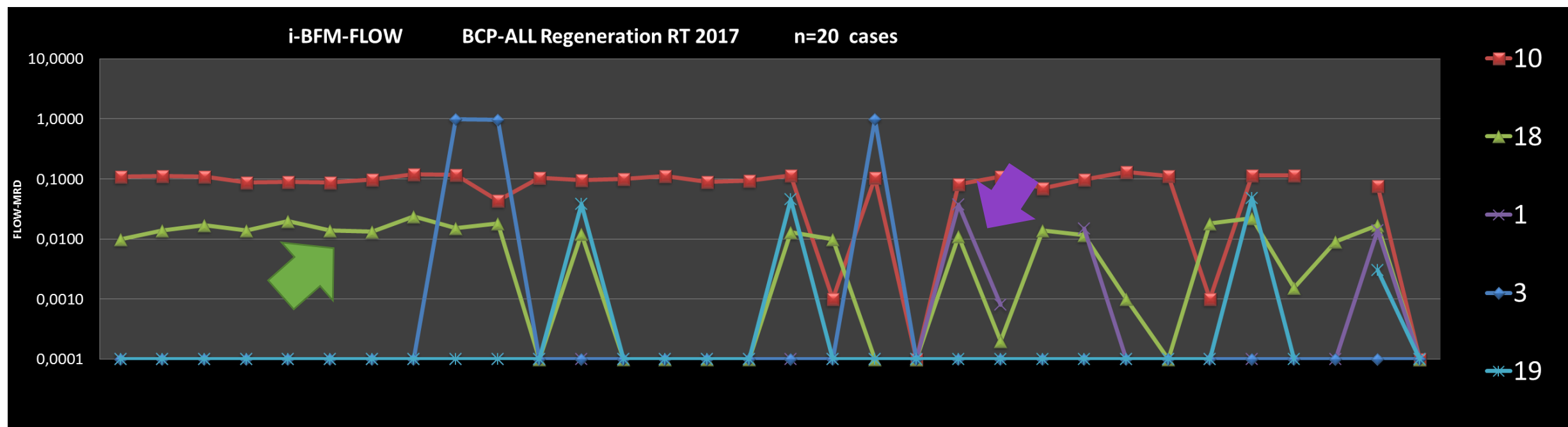
mind very compact patterns
e.g. in CD38, CD45

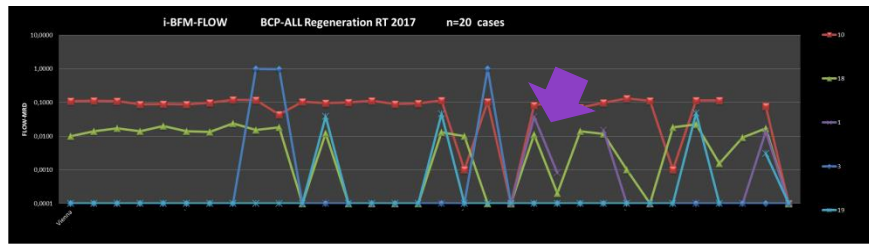
No aberration in any marker



BCP - REGENERATION LMD MRD trial 2017 (RT6)

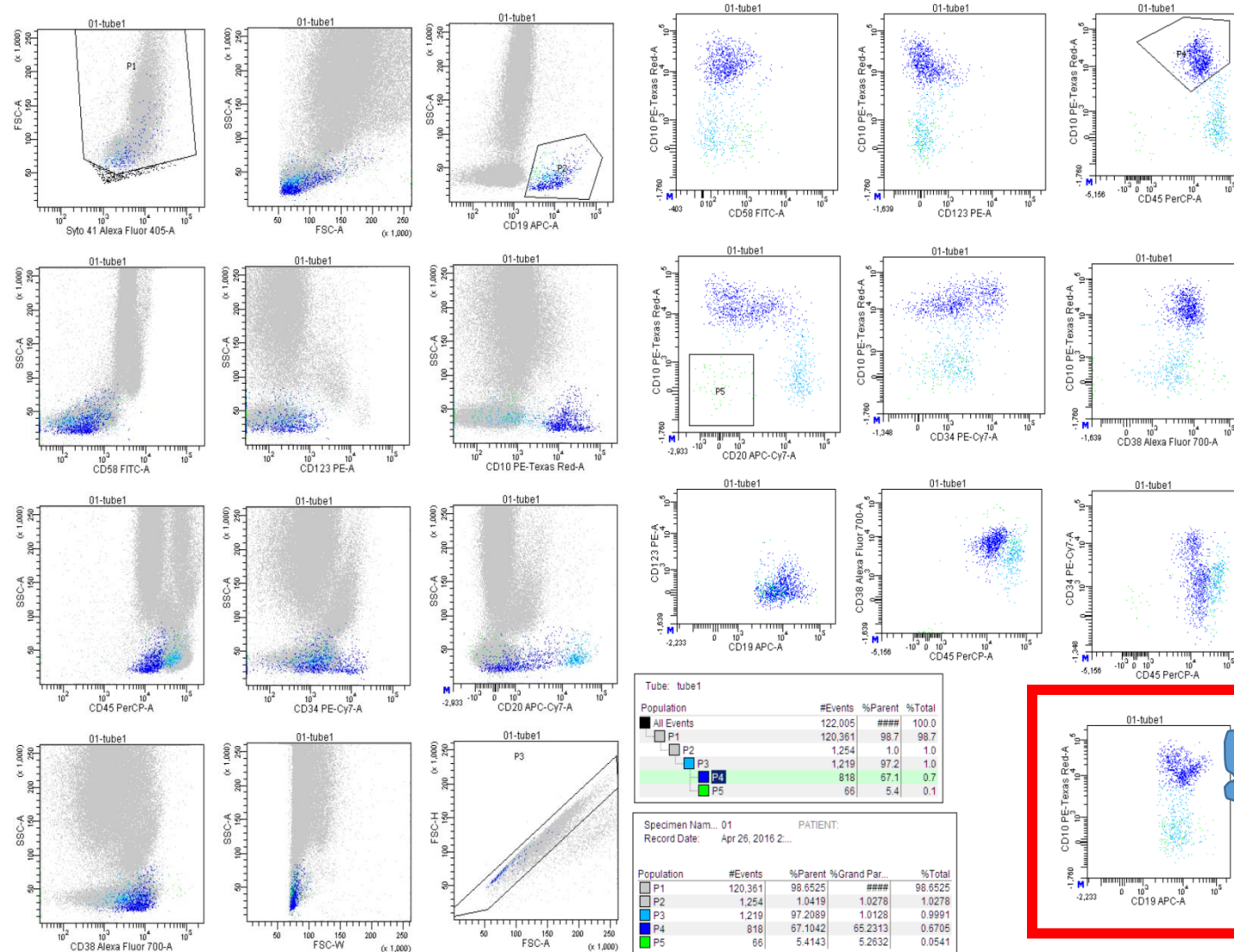
Analysis of problematic cases





Case 1

Target vote: **negative**



Problem:

early & intermediate BCP-regeneration

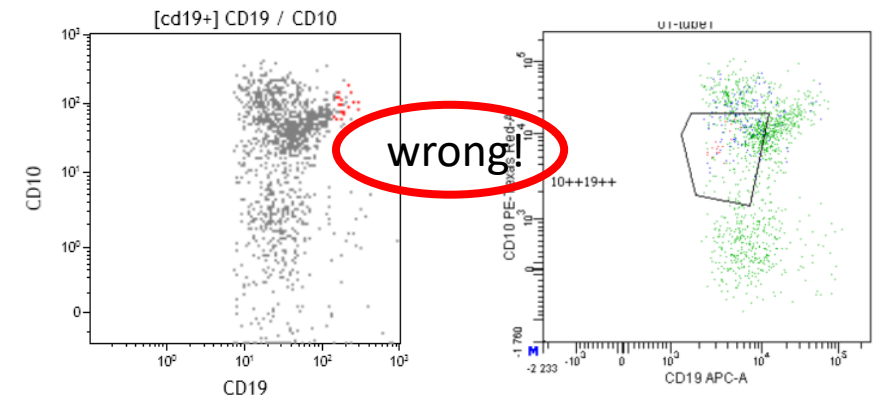
Mind „the funny ghost-view“ in the CD19 vs. CD10 plot

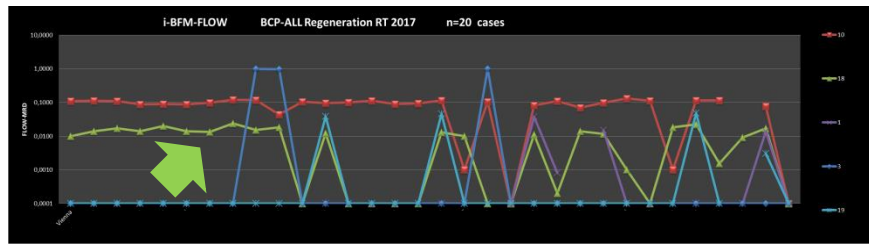


I'm normal

Solution:

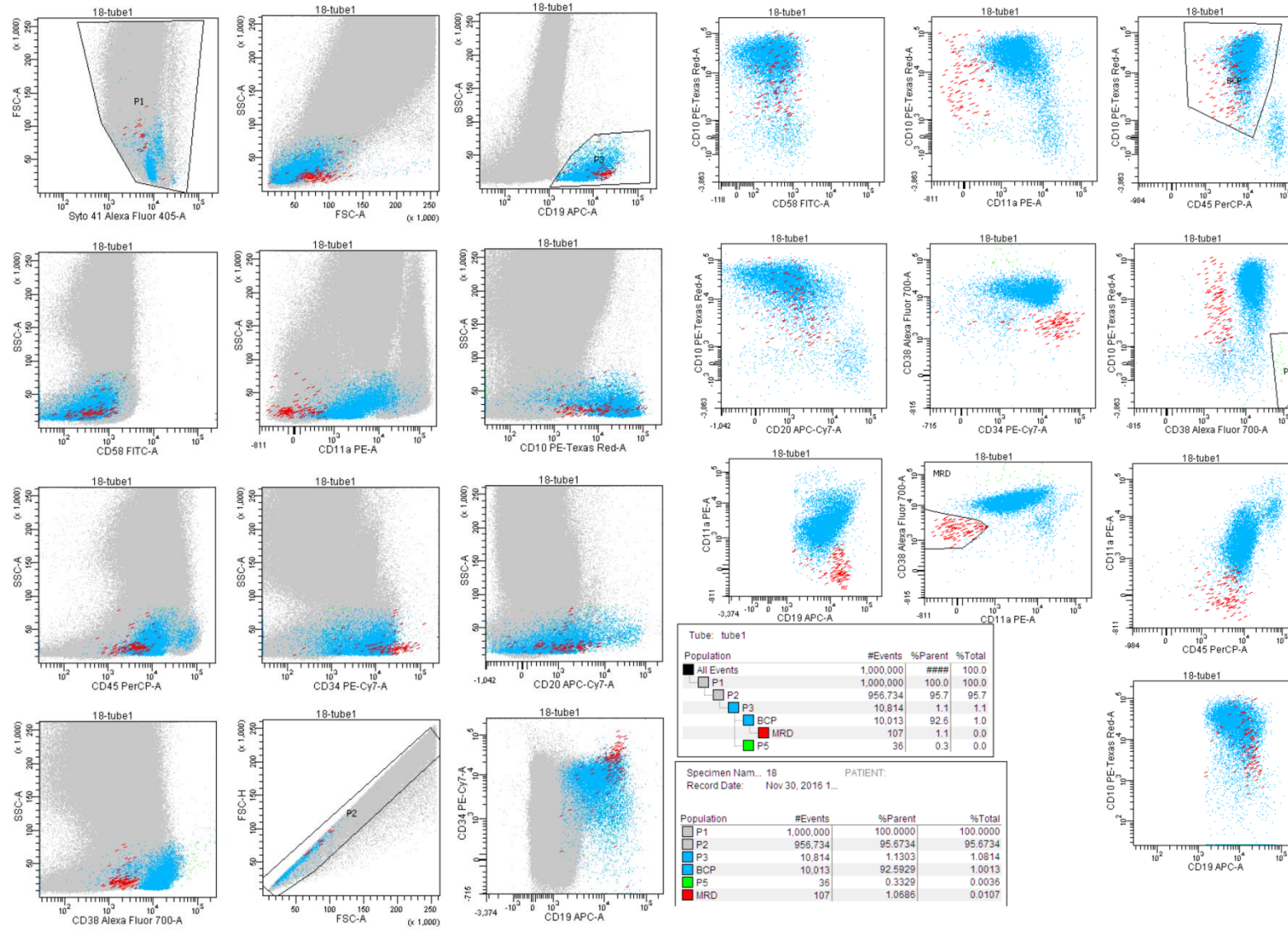
mind cluster gating – do not construct populations (by Boolean connections)





Case 18

Target vote: **positive ~0.01%**



Problem:

strong EARLY BCP-regeneration

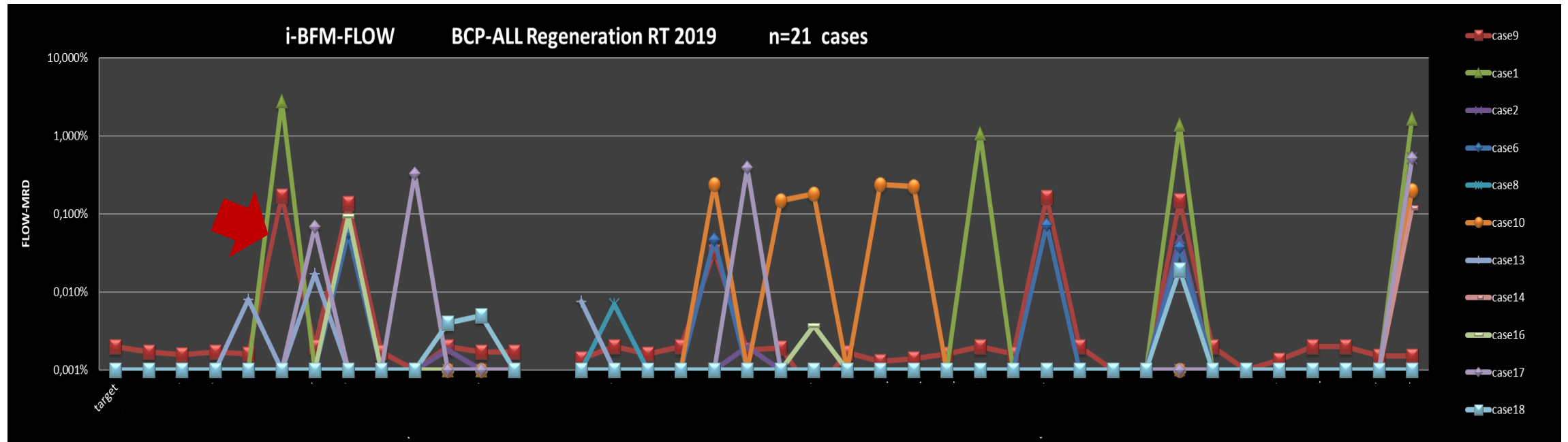
insufficient separation by classical markers like CD10

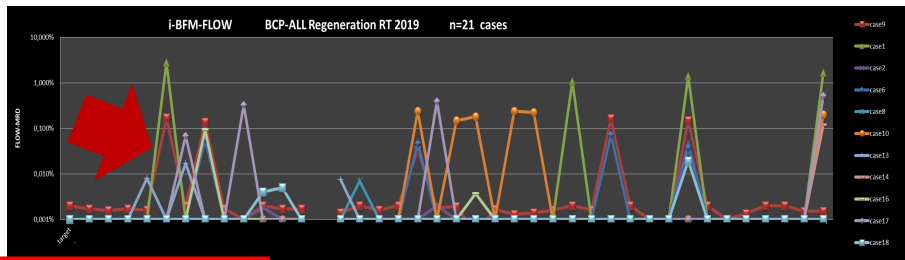
Solution:

mind CD11a (!), CD38

BCP - REGENERATION LMD MRD trial 2019 (RT8)

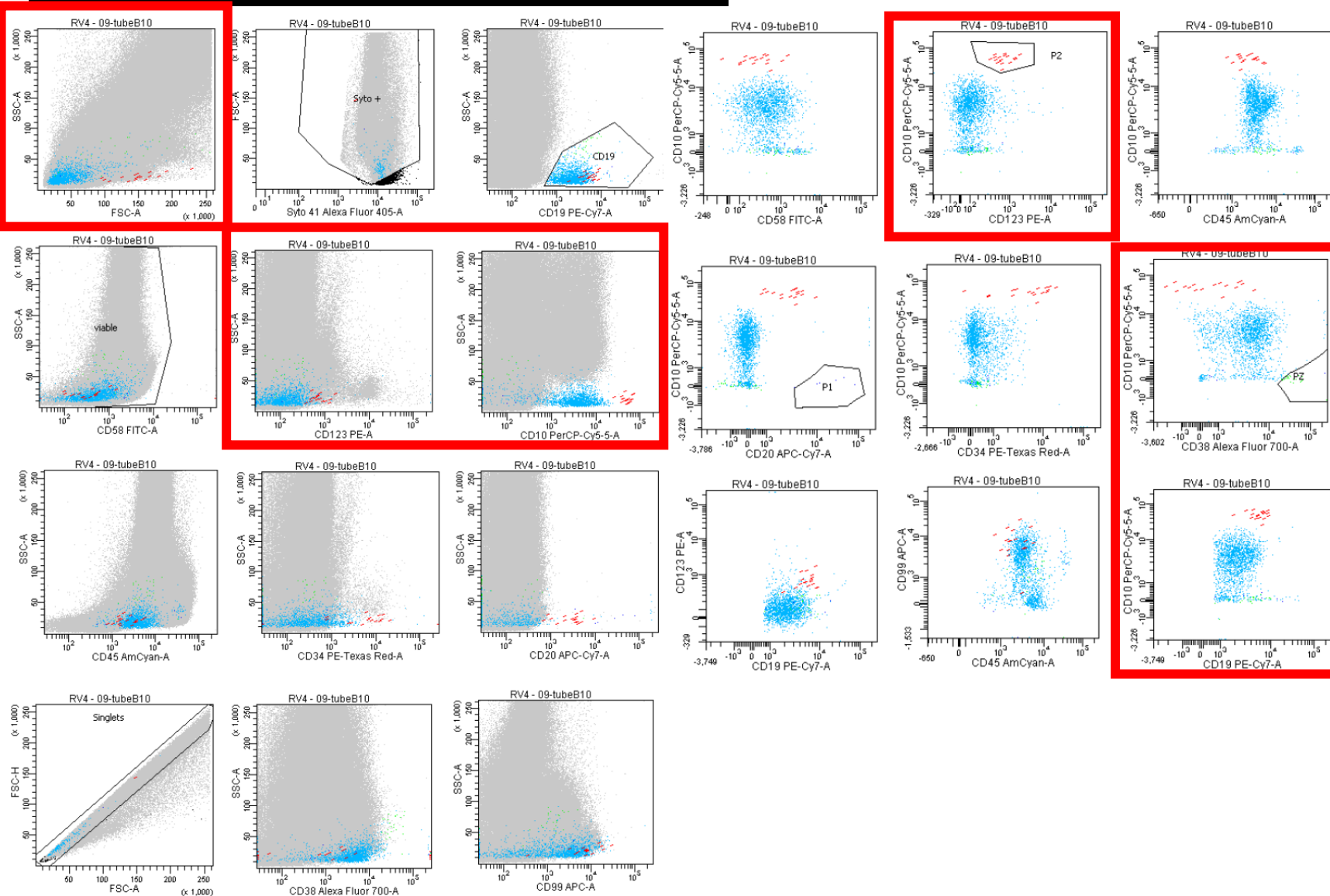
Analysis of problematic cases





Case 9

Target vote: **positive ~0.002%**



Problem:

Very tiny population

*Coexistence of **blasts** & BCP 1&2*

Dim/neg CD34 on BCP1

Solutions: MANY

mind FSC (higher than BCP 1&2)

CD10 overexpression

CD19 higher than BCP 1&2

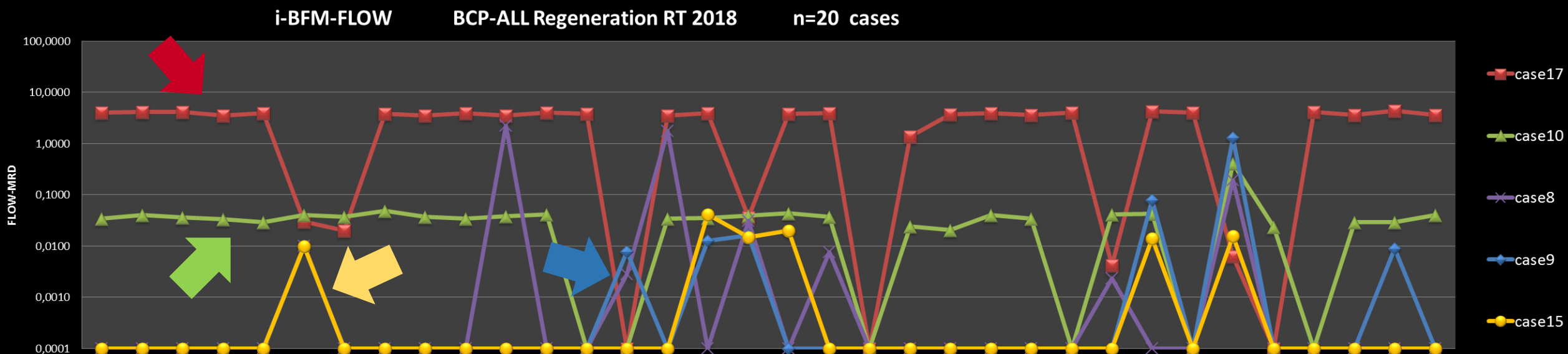
CD38 (!! too low)

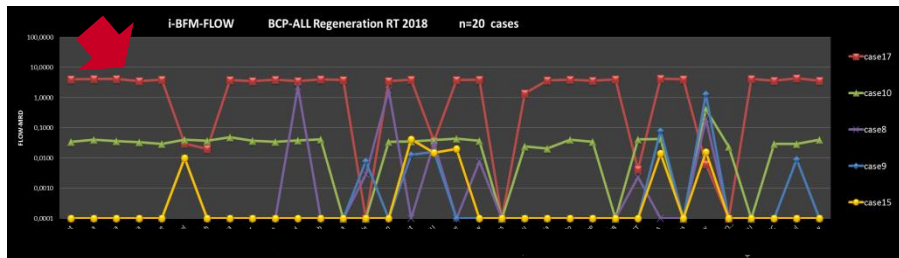
CD123 positive

*Reverse population (BCP 1&2):
no aberration (apart from CD34)*

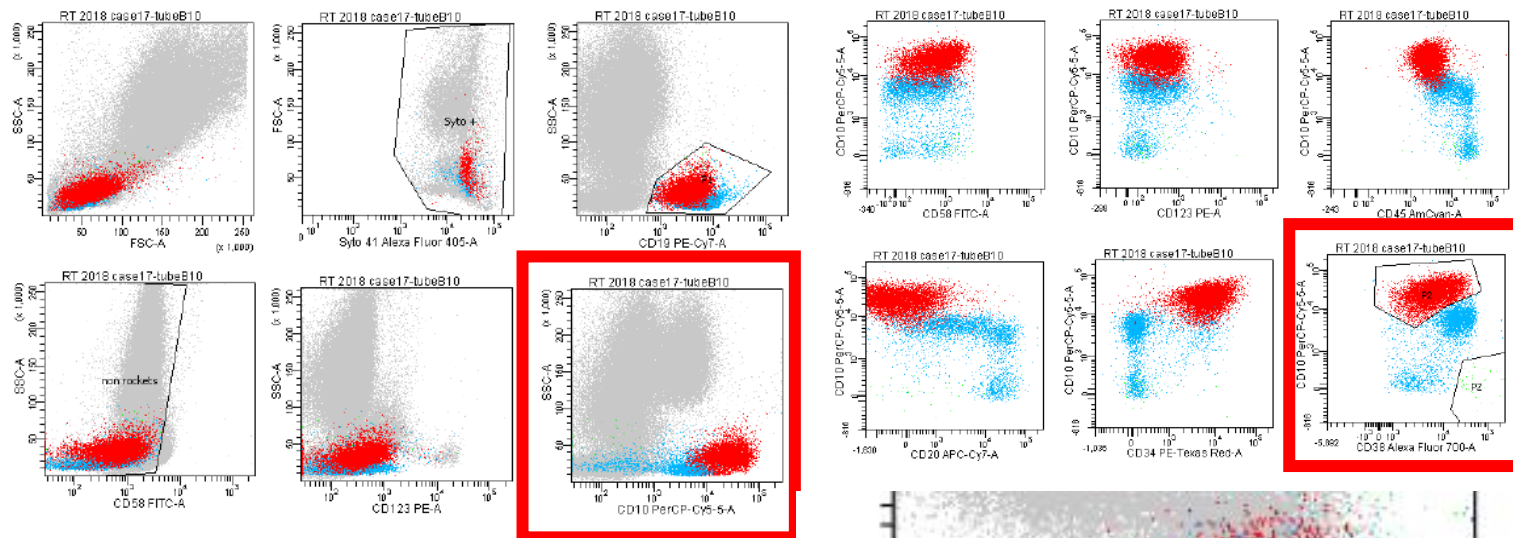
BCP - REGENERATION LMD MRD trial 2018 (RT7)

Analysis of problematic cases





Case 17



Problem:

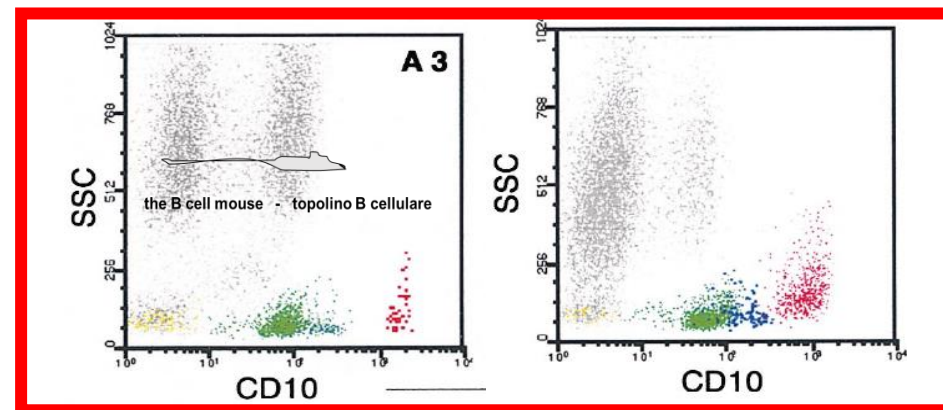
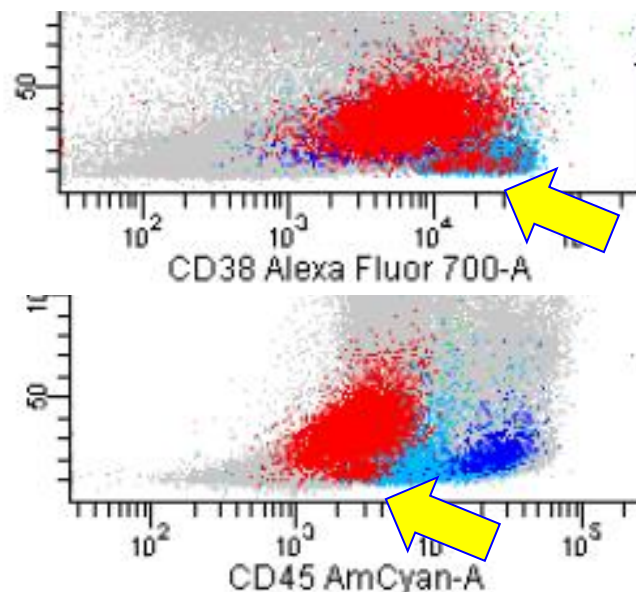
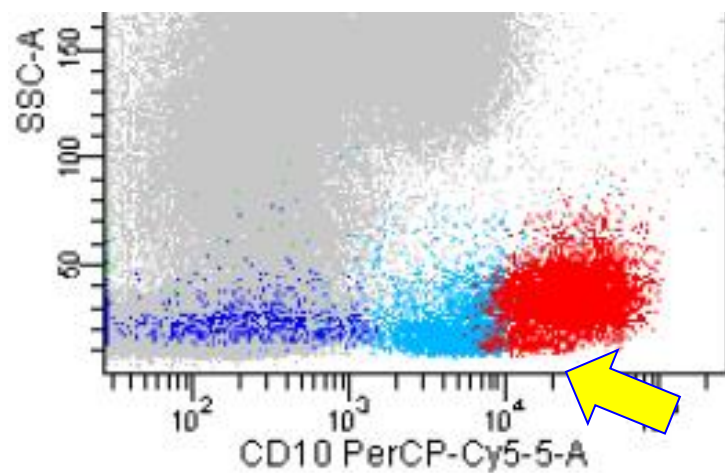
Probable EARLY BCP-regeneration

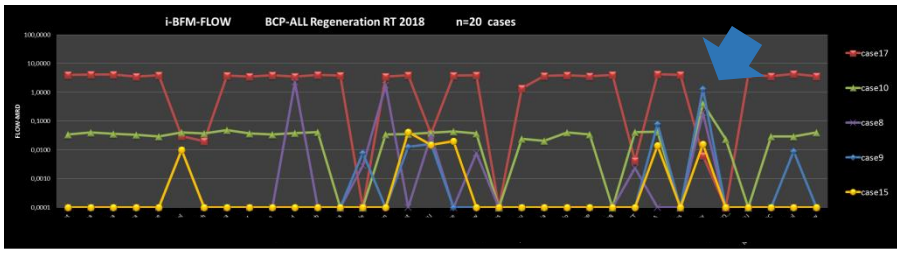
Insufficient separation by classical markers like CD10

Solution:

Mind elevated SSC – should be very low in normal BCP1

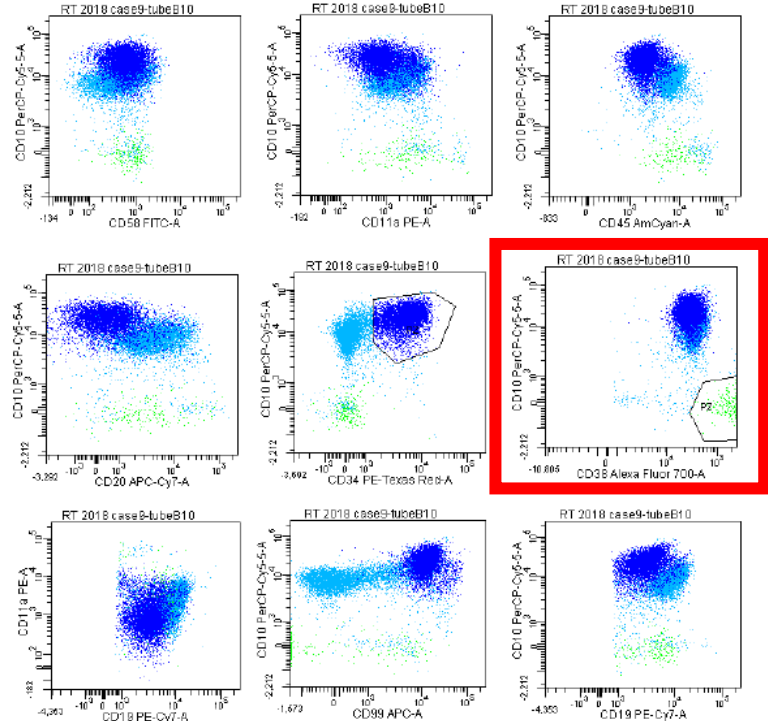
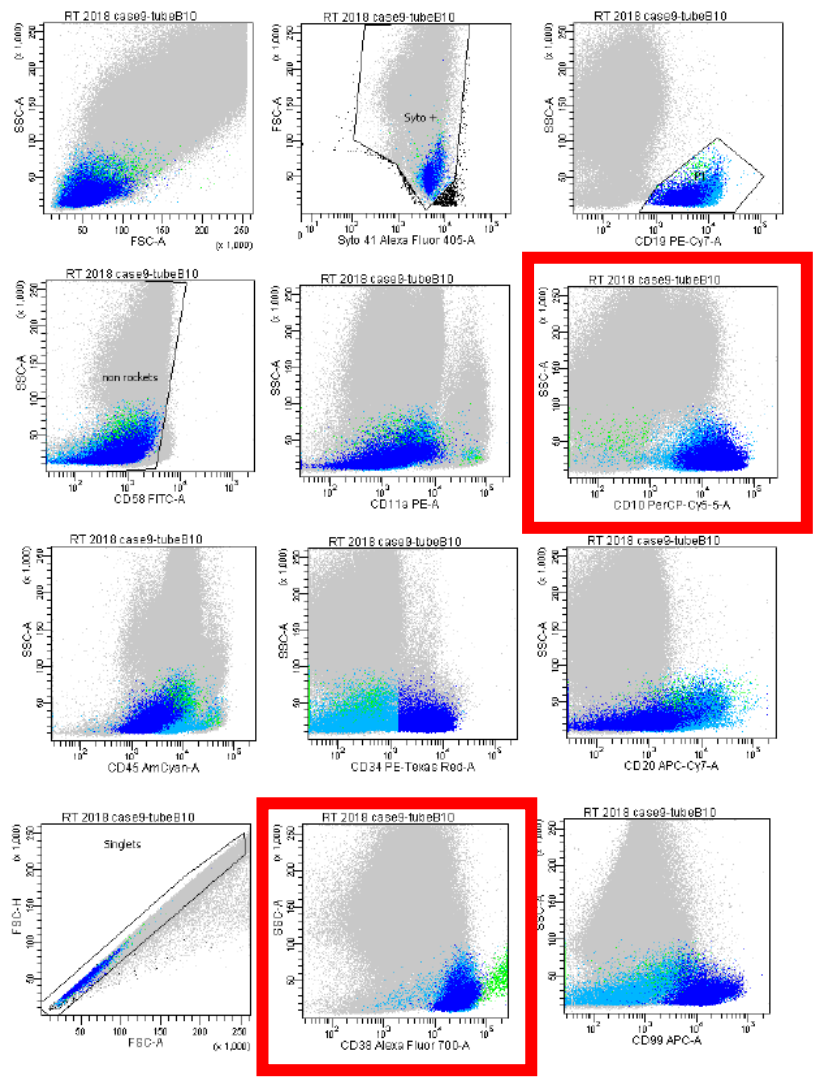
Mind unusually heterogeneous CD38





Case 9

Target vote: **negative**



Tube: tubeB10

Population	#Events	%Parent	%Total
All Events	1,145,721	###	100.0
Syto +	1,135,088	99.1	99.1
Singlets	990,586	87.2	86.4
Erythroblasts	27,435	2.3	2.4
non rockets	982,787	99.2	85.7
P1	48,618	4.3	4.2
P2	22,635	46.5	2.0

Tube Name: tubeB10
Record Date: Jan 17, 2018 3:20:22 PM

Population	#Events	%Parent	%Grand Pare	%Total
Syto +	1,135,088	99.0727	###	99.0727
Singlets	990,586	87.1927	86.3842	86.3842
Erythroblasts	27,435	2.7596	2.4149	2.3925
non rockets	982,787	99.2127	86.5062	85.7041
P1	48,618	4.9470	4.9080	4.2397
P2	22,635	1.5817	0.0782	0.0671
P2	22,635	46.5568	2.3031	1.9739

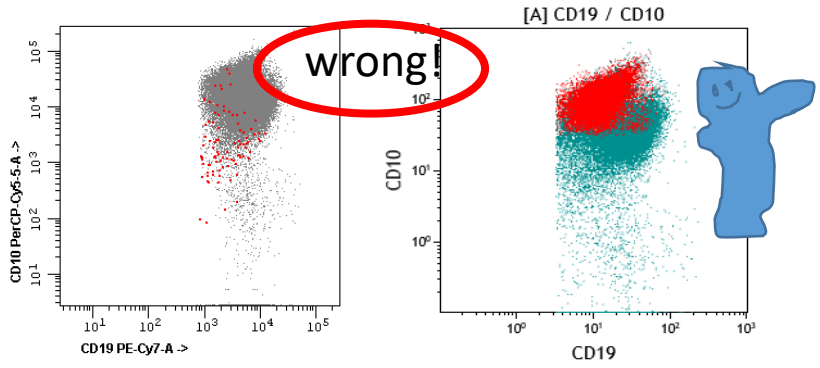
Problem:

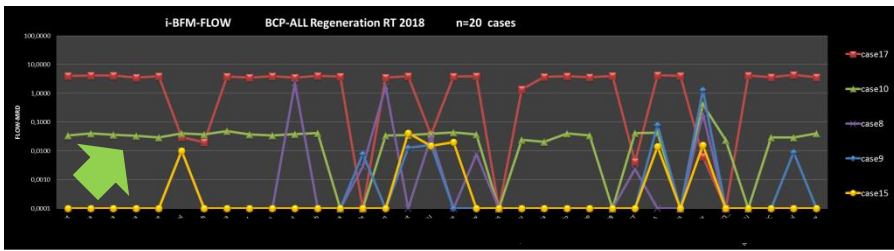
Strong early BCP 1 & 2-regeneration
Almost no mature BCP3 for comparison

Solution:

mind very compact patterns
e.g. in CD38, CD45

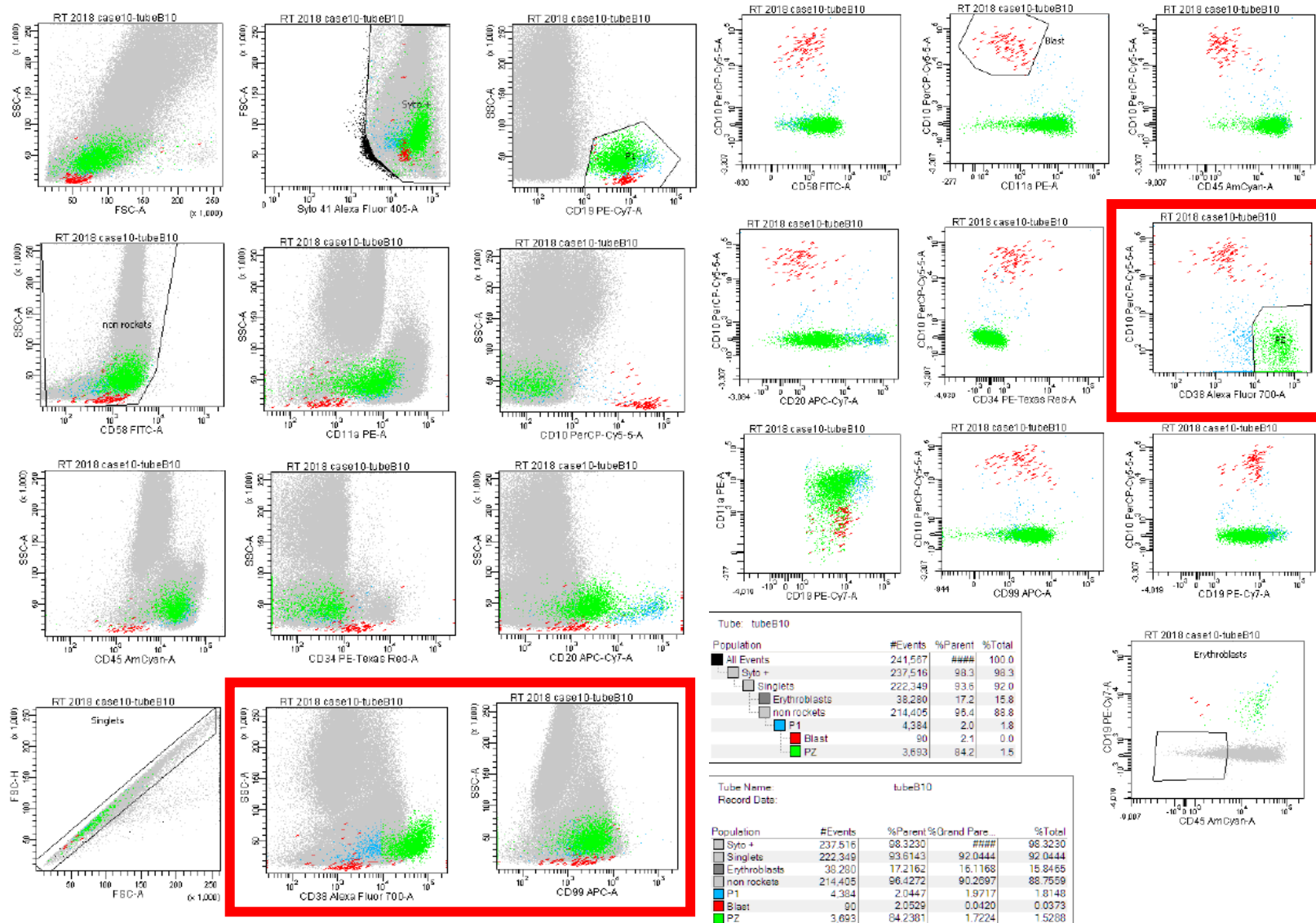
No aberration in any marker





Case 10

Target vote: **positive ~0.035%**



Problem:

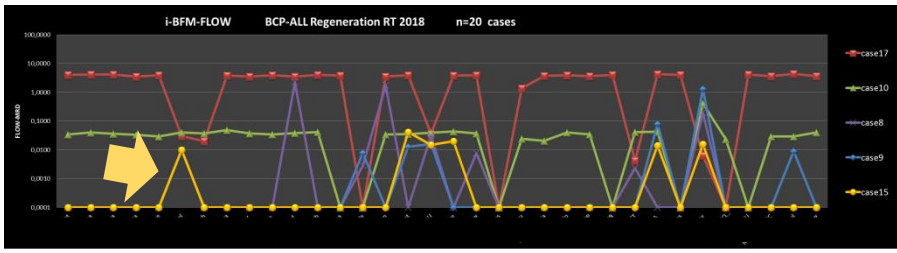
Probable early BCP-regeneration, but very few maturing B-cells for comparison (mostly plasma cells)

Insufficient separation by classical markers like CD10

Very small cells with very low SSC – reminiscent of normal BCP1

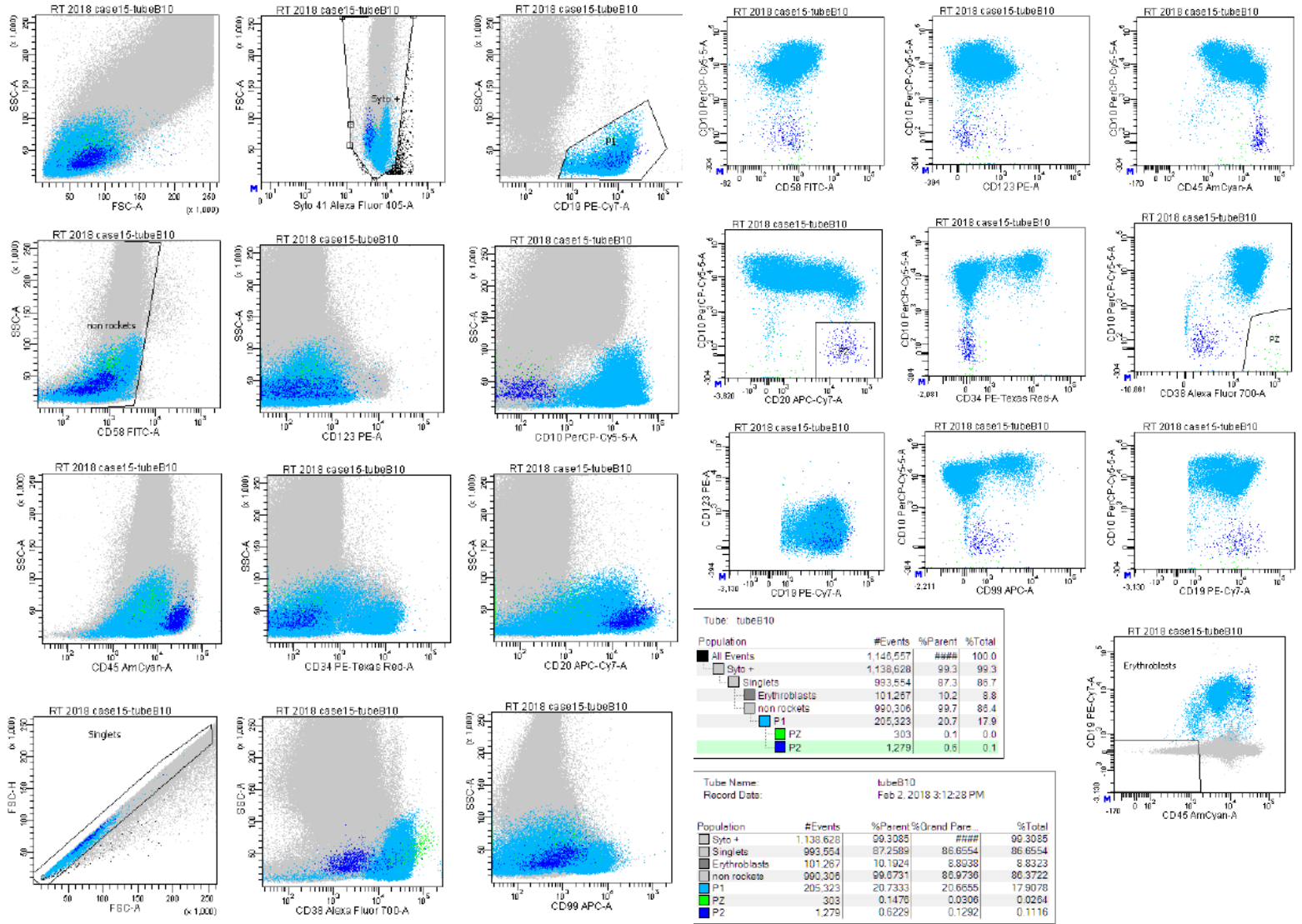
Solution:

mind CD99 and CD38 (!! too low)



Case 15

Target vote: **negative**



Problem:

Strong early BCP 1 & 2-regeneration

Solution:

*mind very compact patterns
e.g. in CD38, CD45*

No aberration in any marker