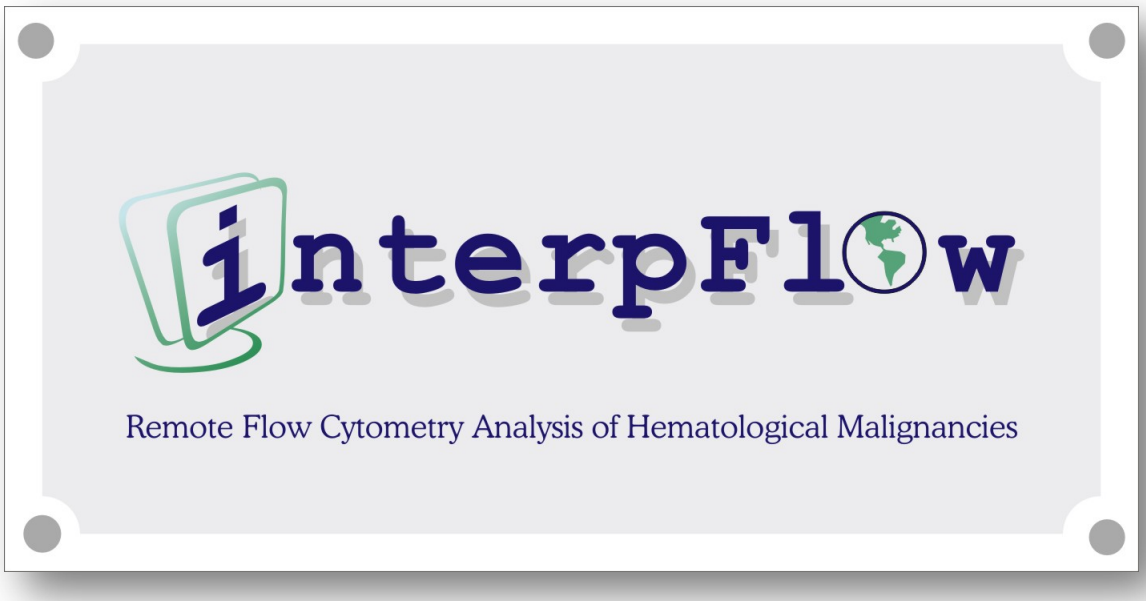


STEM CELL DISORDERS

Myelodysplatic Syndrome (MRS)

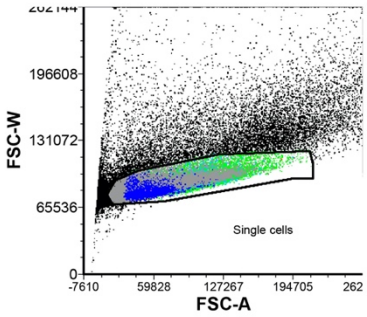
www.Interpflow.com
info@interpflow.com

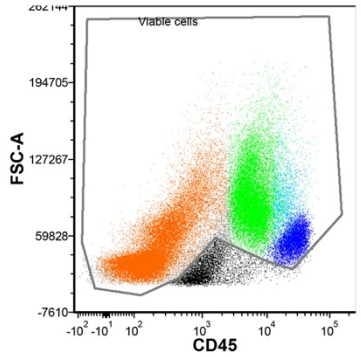
Myelodysplastic Syndrome (MDS). The importance of evaluating multiple cell lineages and maturation stages.

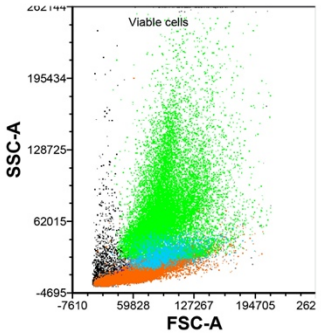
In patients with MDS the role for flow cytometric immunophenotyping is not fully established, but recently immunophenotyping was included as one of the co-criteria for the
diagnosis of MDS. (12) Several studies indeed have shown that immunophenotypic abnormalities can be detected in the vast majority of MDS patients, including abnormalities in lineages (or cases) with normal cytomorphological appearance. (13,14) However, since many immunophenotypic abnormalities are not specific for MDS, flow cytometric scoring systems are needed, but so far, they have not been standardized. (15, 16-22)
International harmonization of flow cytometry MDS diagnostics is currently in progress. (23, 24)
Example of data analysis in a case with diagnosis of low grade MDS, where no overt increased blasts by morphology.

NITIAL GATING & SUMMARY

CELLS	% of all cells
Neutrophils (%mature)	28.63 CD16++ cells (21% of neutrophils) CD11b+ CD13+ (32% of neutrophils)
Eosinophils	0.86
Basophils (DRneg CD123++)	0.53
Monocytes	2.61
Lymphocytes	9.3
NRBC	48.35
Dendritic cells (total)	0.00
Total CD34+	4.59
Mast cells	0.03
Other	0.00
CELLS	**% of lymphs**
Early B	0.00
Intermediate B	0.00
Mature B	17.32







Flow Cytometry data analysis

INTERPRETATION
The marrow aspirate is minimally hemodiluted.

CD34+: 4% of total, myeloid committed, with phenotypic abnormalities (upregulated CD117 with downregulated CD38, also upregulated CD33)

Granulocytes: Markedly relatively decreased. Asynchronic disrupted maturation patterns, and upregulated CD64. Phenotypic changes are consistent with dyspoiesis. Hypogranularity.

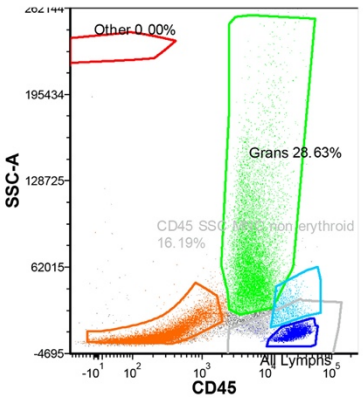
Monocytes: left shifted maturation.
Erythroid precursors: relatively increased (48%), with phenotypic abnormalities in maturation patterns.

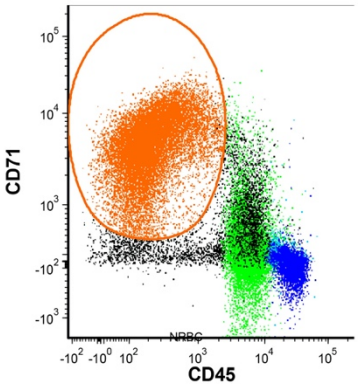
Mast cells: not increased
Basophils: relatively sligtly increased

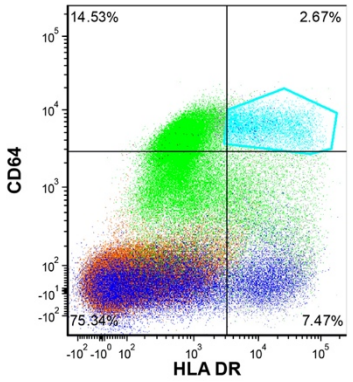
Mature B-cells: polyclonal.
B cell precursors: not detected

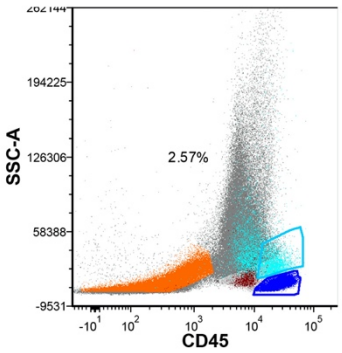
*Plasma cells and T cells were analyzed separately.

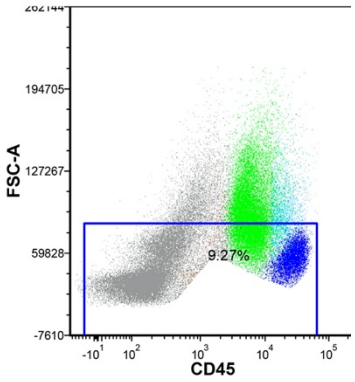
GRANULOCYTES / LYMPHOCYTES / MONOCYTES / GATING



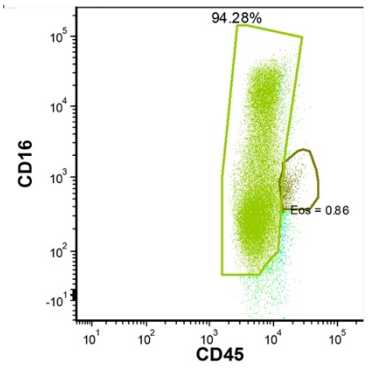


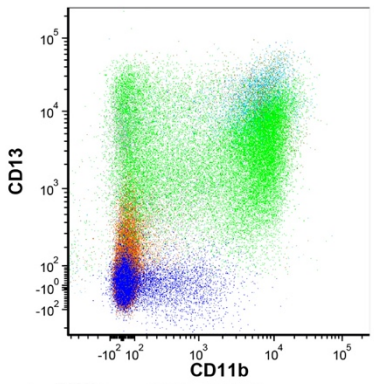


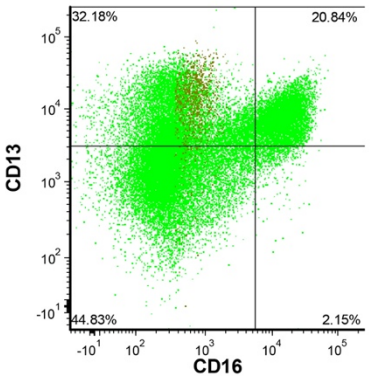


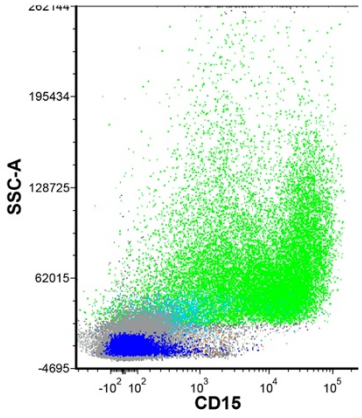


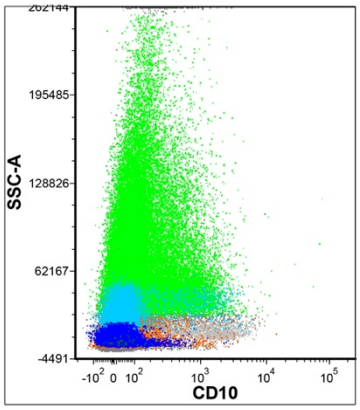
GRANULOCYTES : Neutrophils and Eosinophils

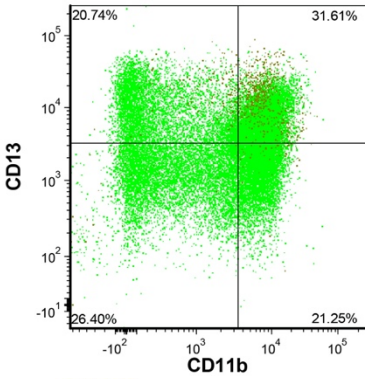








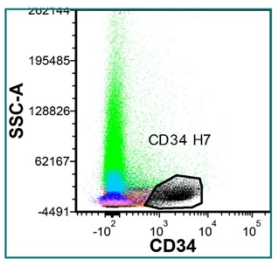


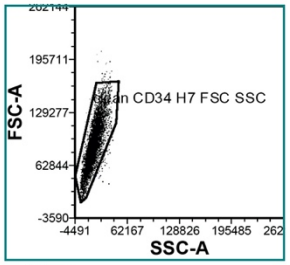


CD34+ cells : GATING

TUBE 1
B cells
CD34 APC H7

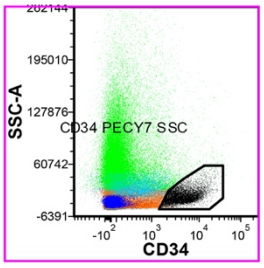
4.06%

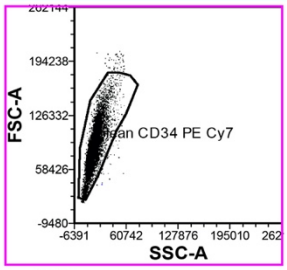




TUBE 3
Myeloid
CD34 PEcy7

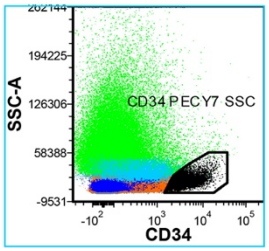
4.59%

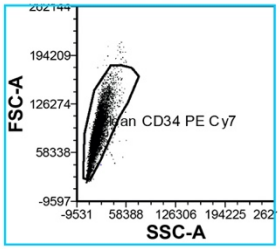




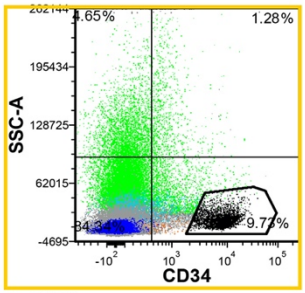
TUBE 5
Monocytic
CD34 PEcy7

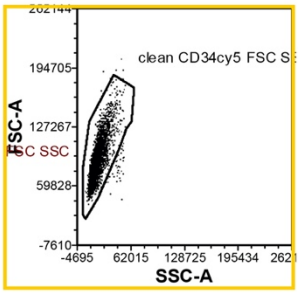
4.41%



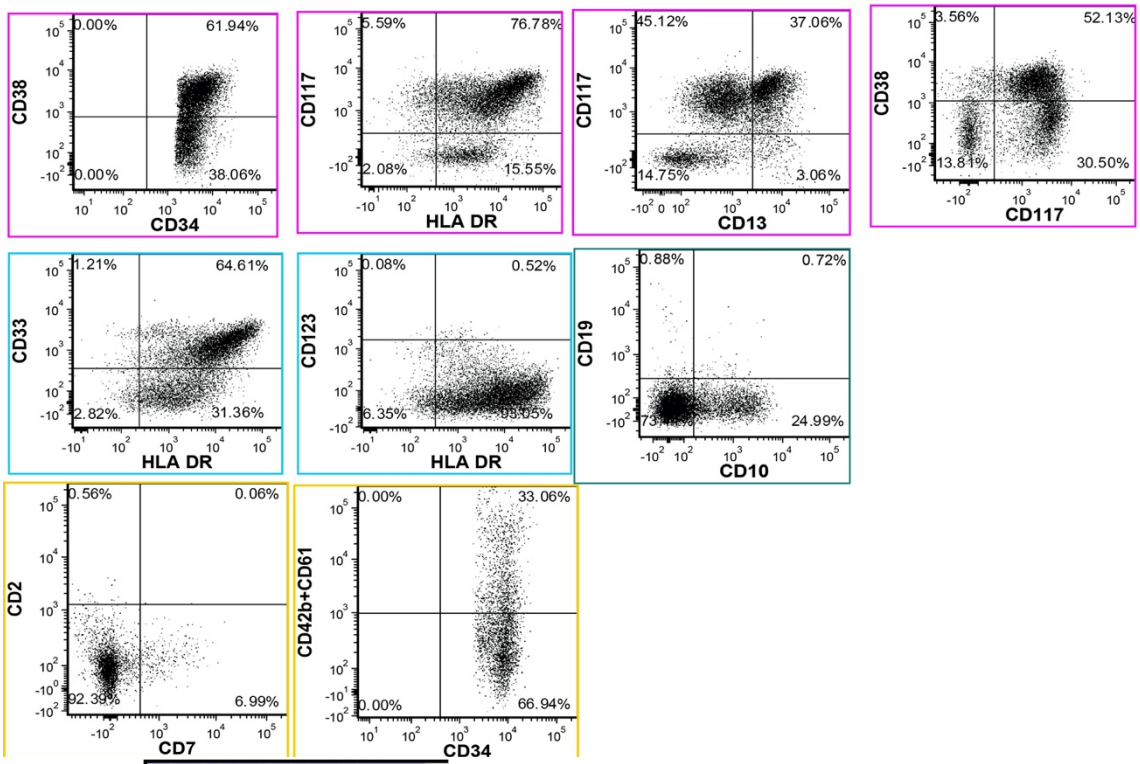


TUBE 4
Plts
CD34 PerCP Cy5 4.52%

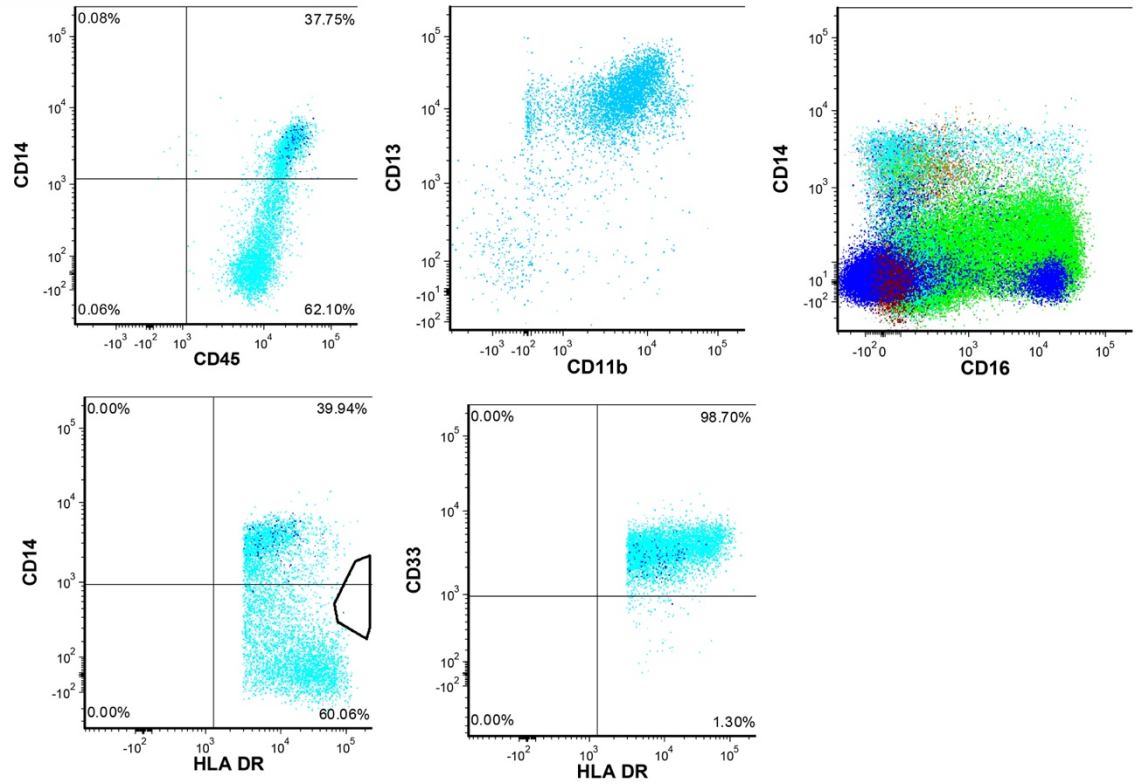




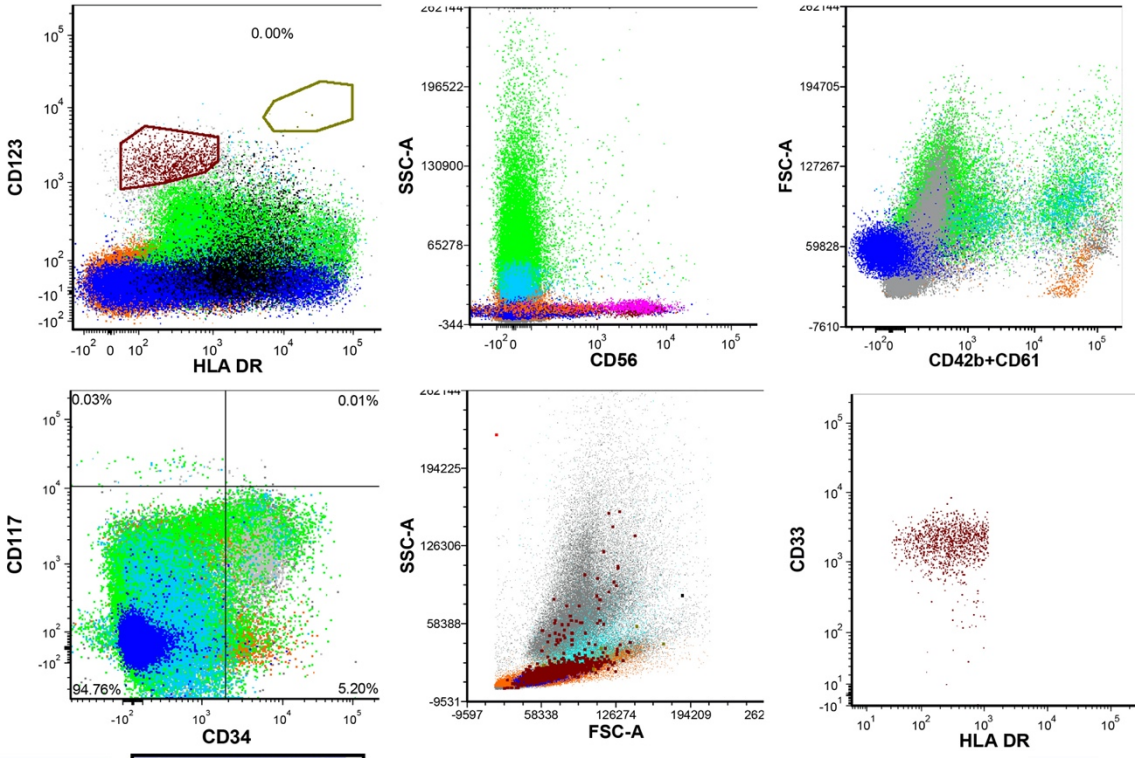
CD34+ SUBSETS



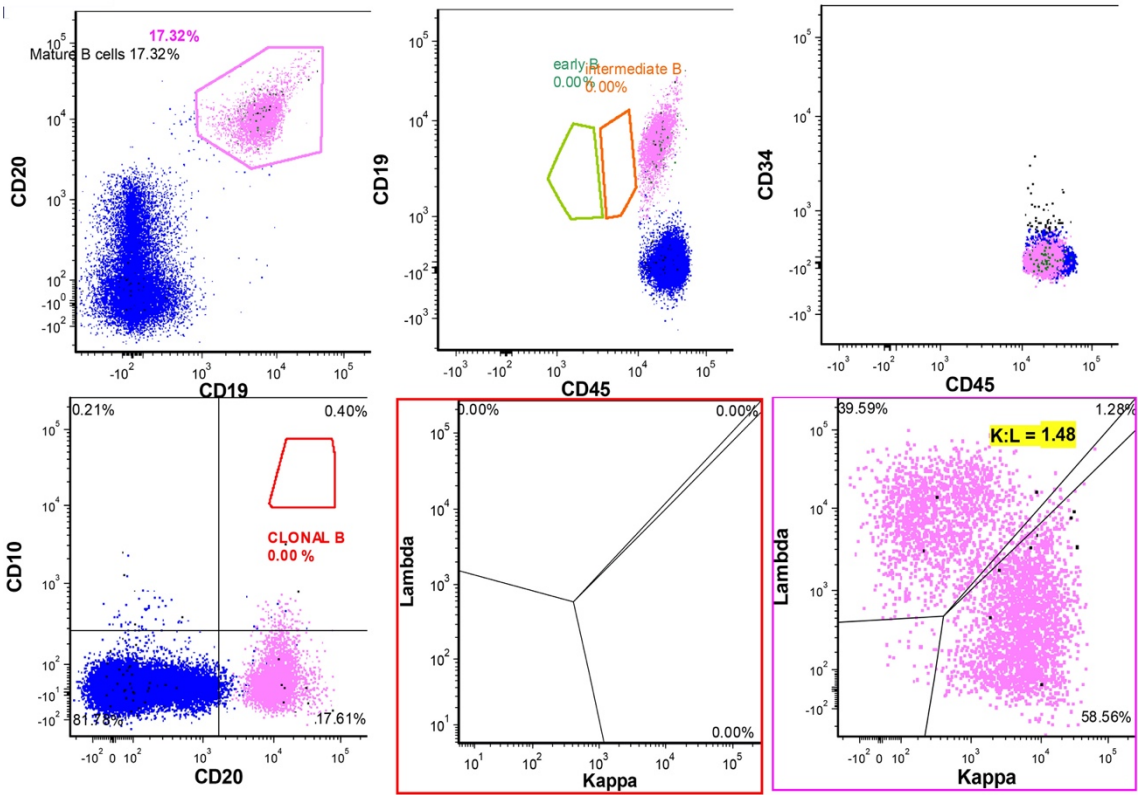
MONOCYTIC COMPONENT



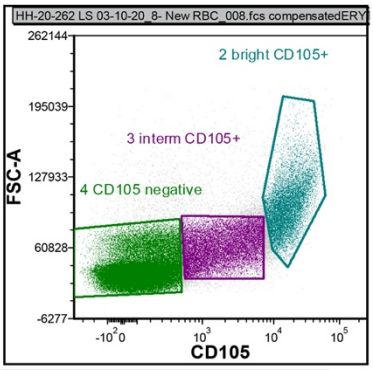
BASOPHILS / DENDRITIC / MAST CELLS



B CELL MATURATION



ERYTHROID MATURATION



Gate	% of gated cells
None	100.00
1 ERYTHROID 34+	0.00
2 bright CD105+	10.51
3 interm CD105+	15.82
4 CD105 negative	69.37