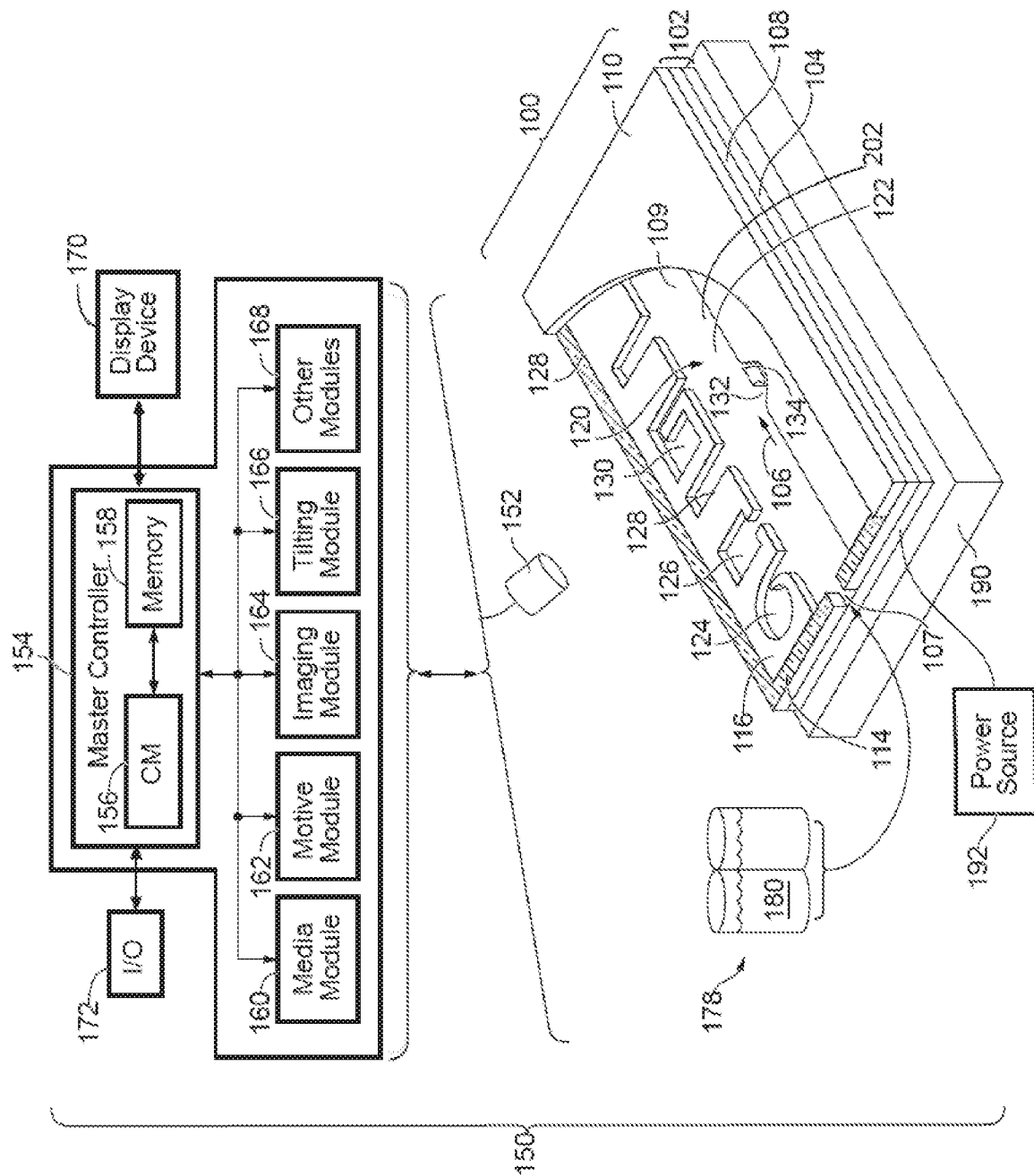




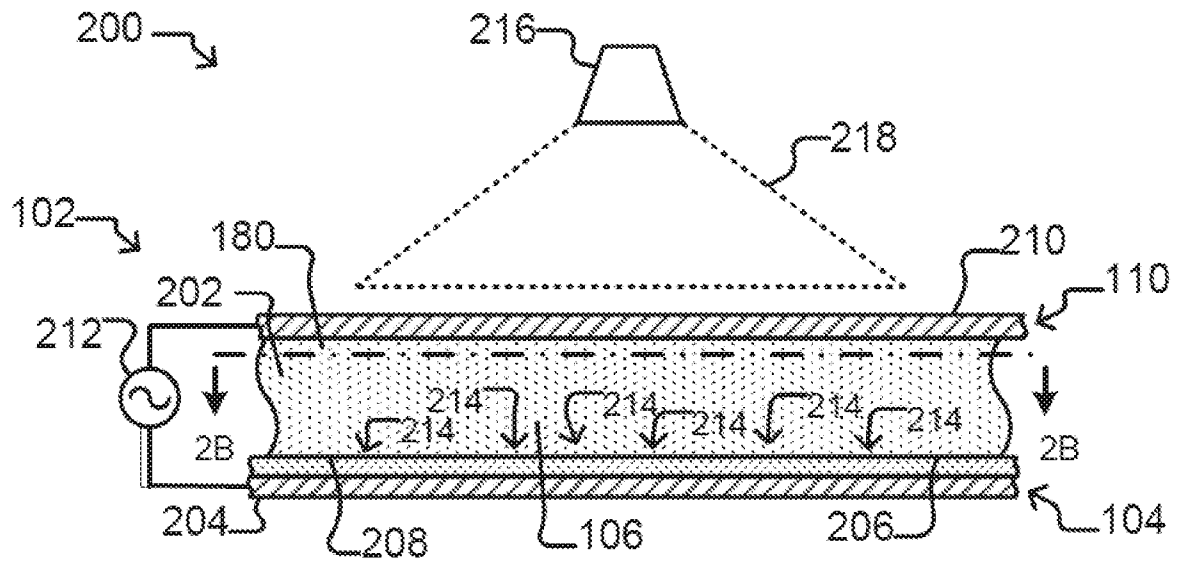


FIG. 1B

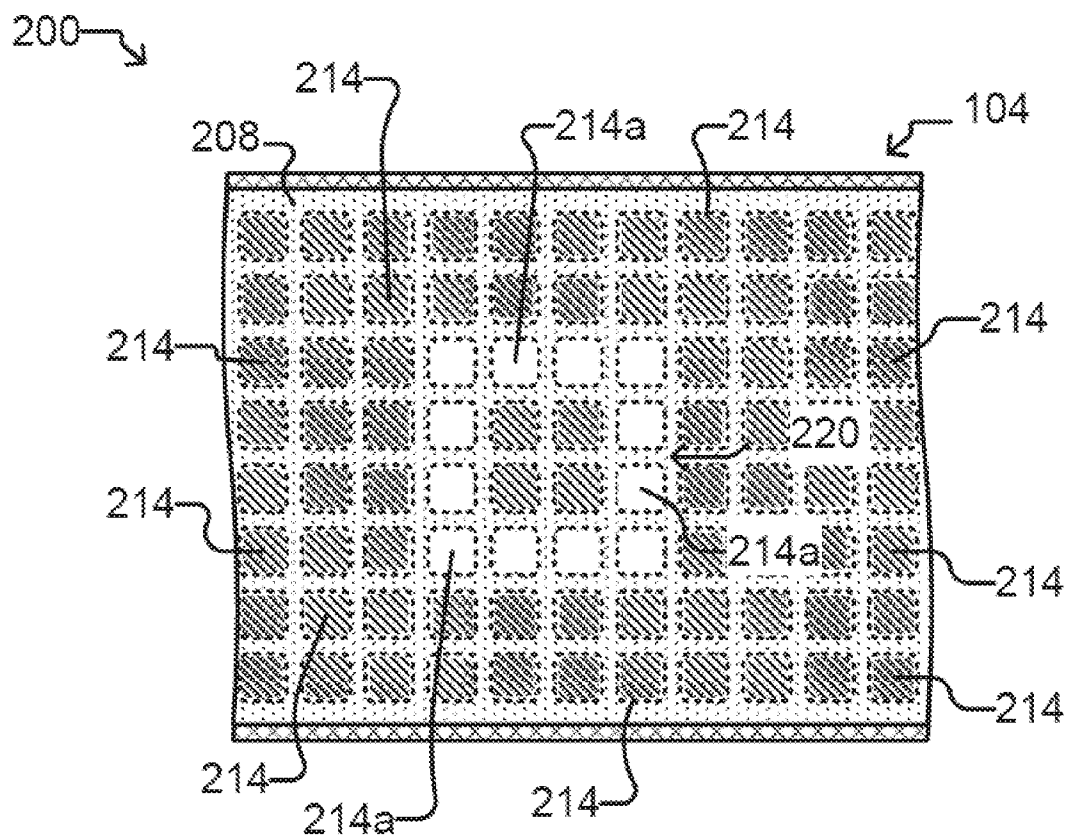


FIG. 1C

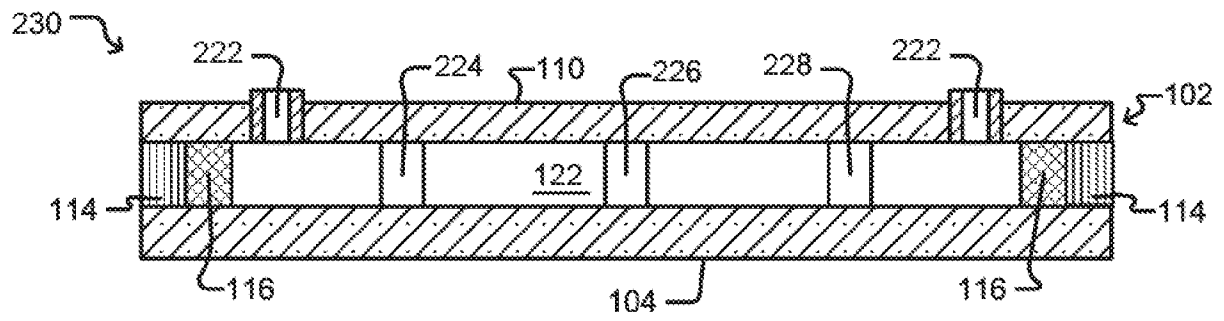


FIG. 2A

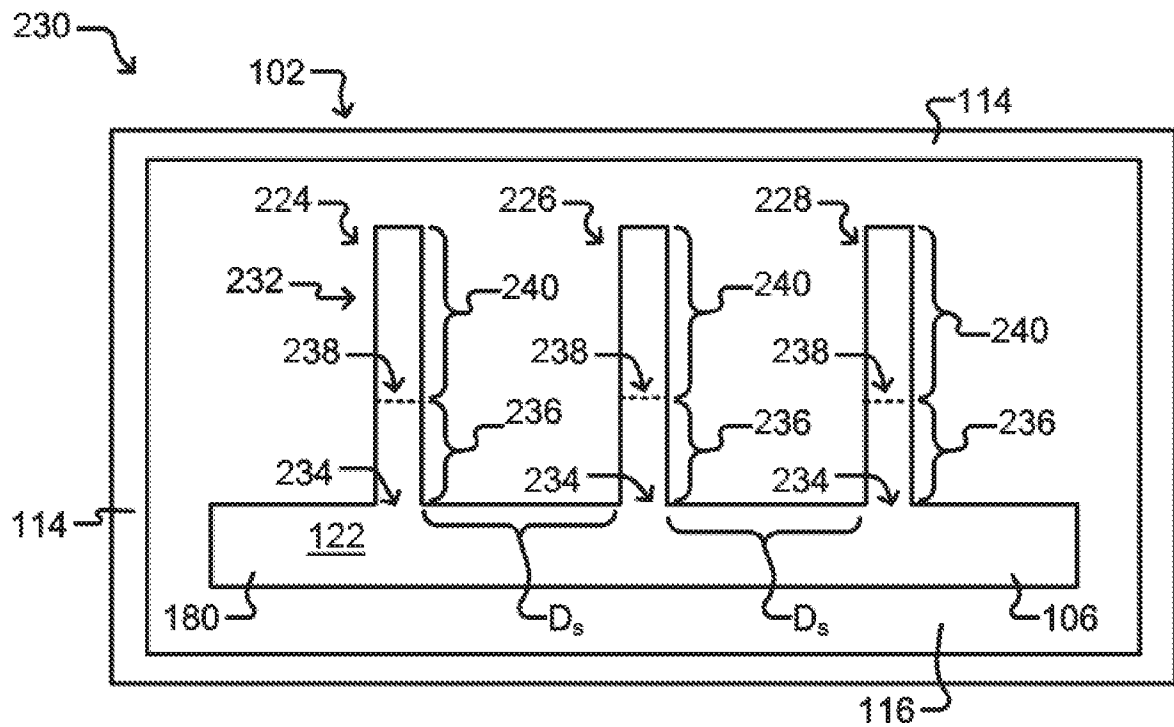
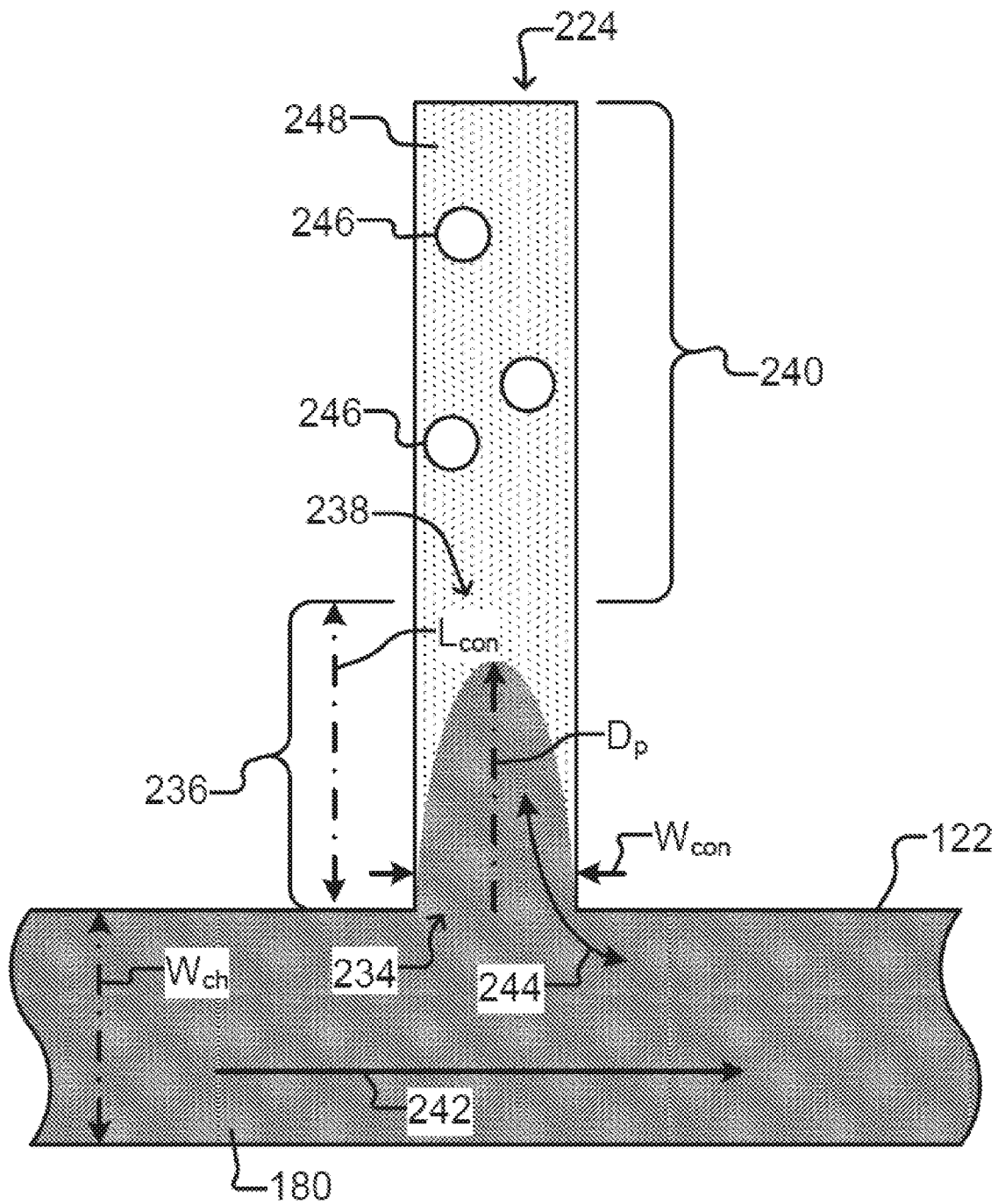


FIG. 2B

**FIG. 2C**

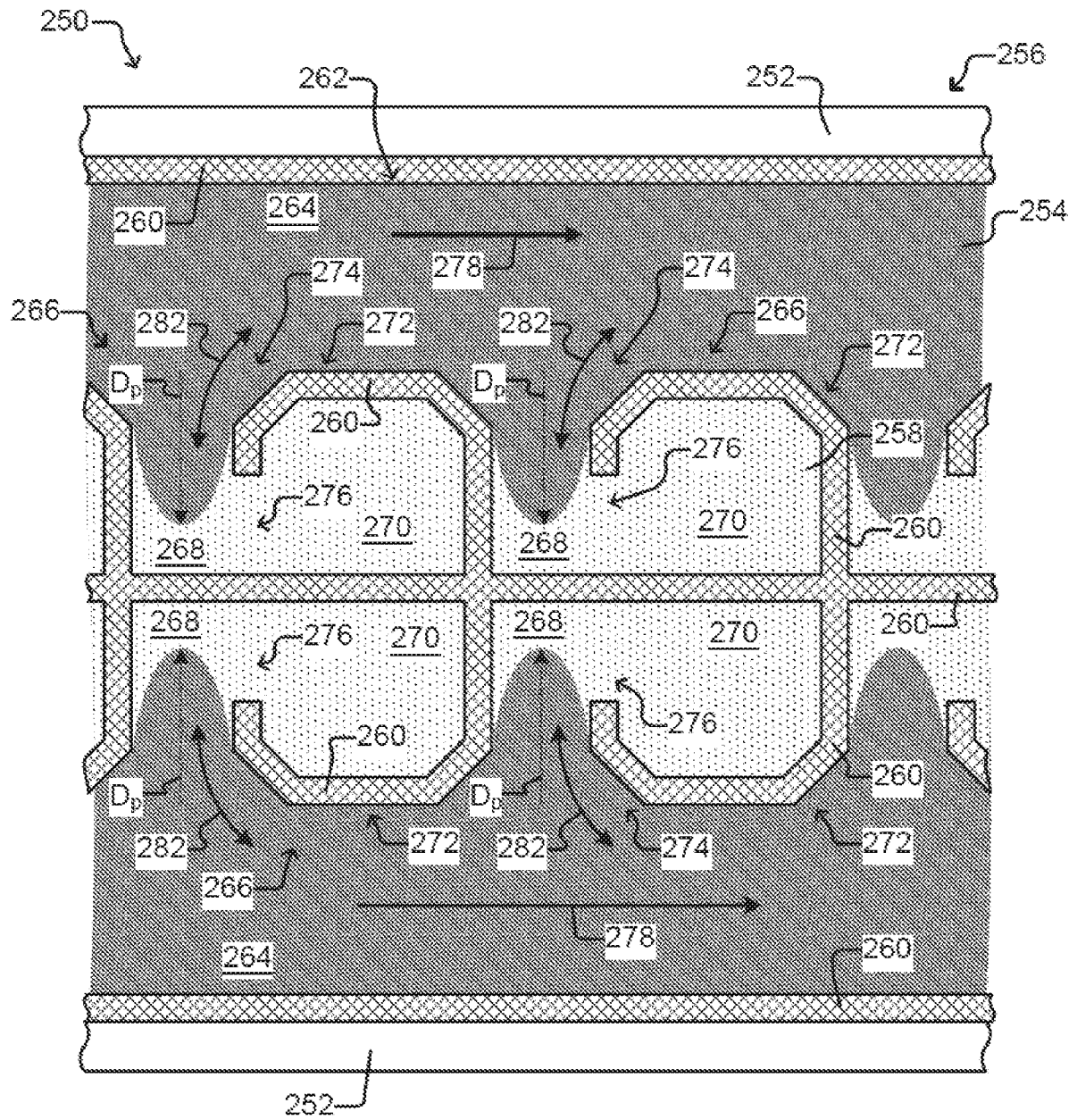


FIG. 2D

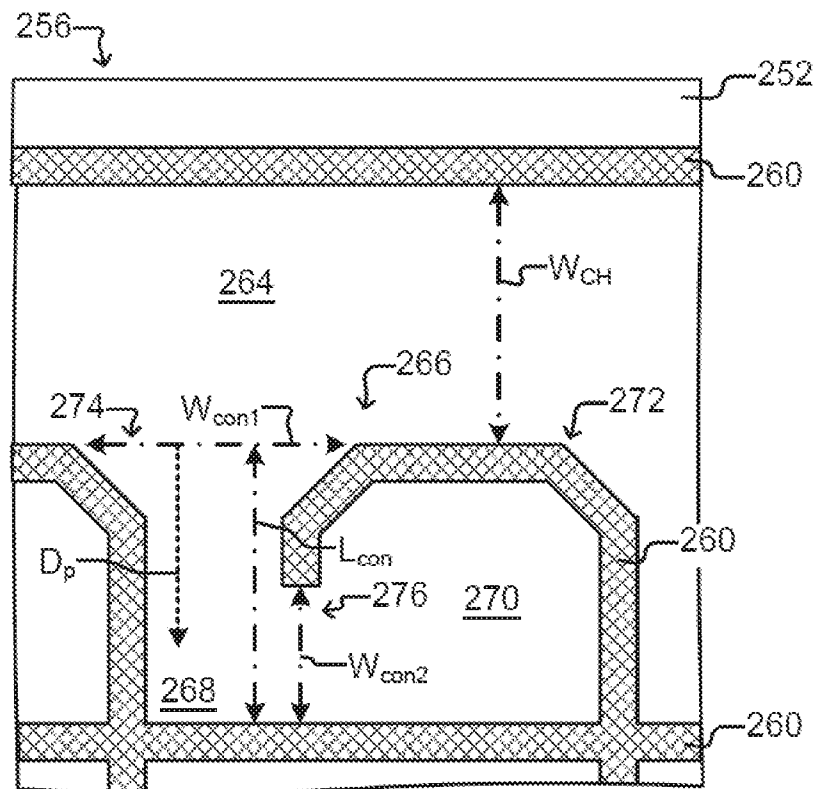


FIG. 2E

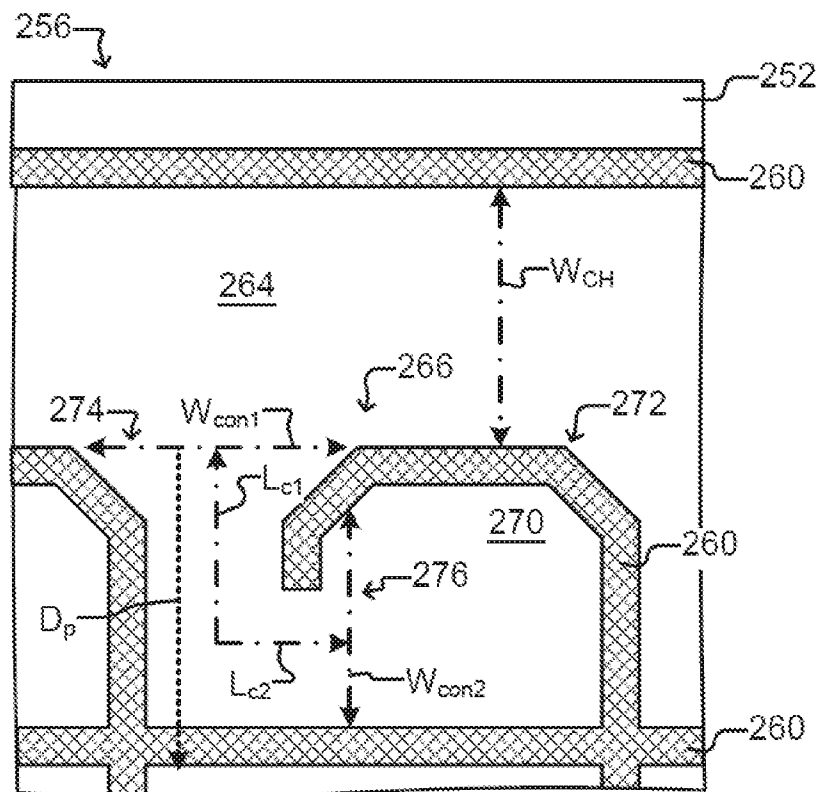


FIG. 2F

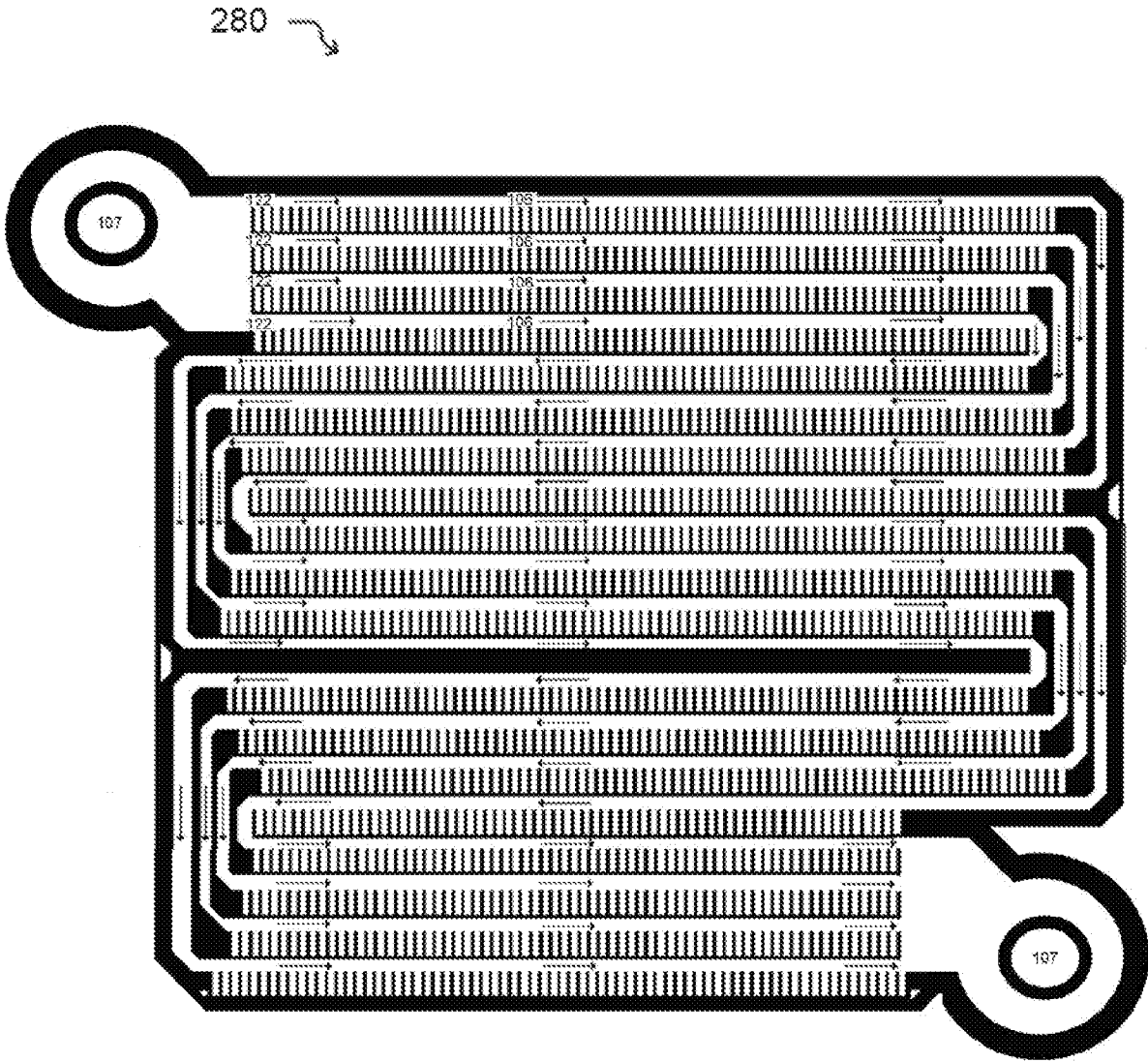
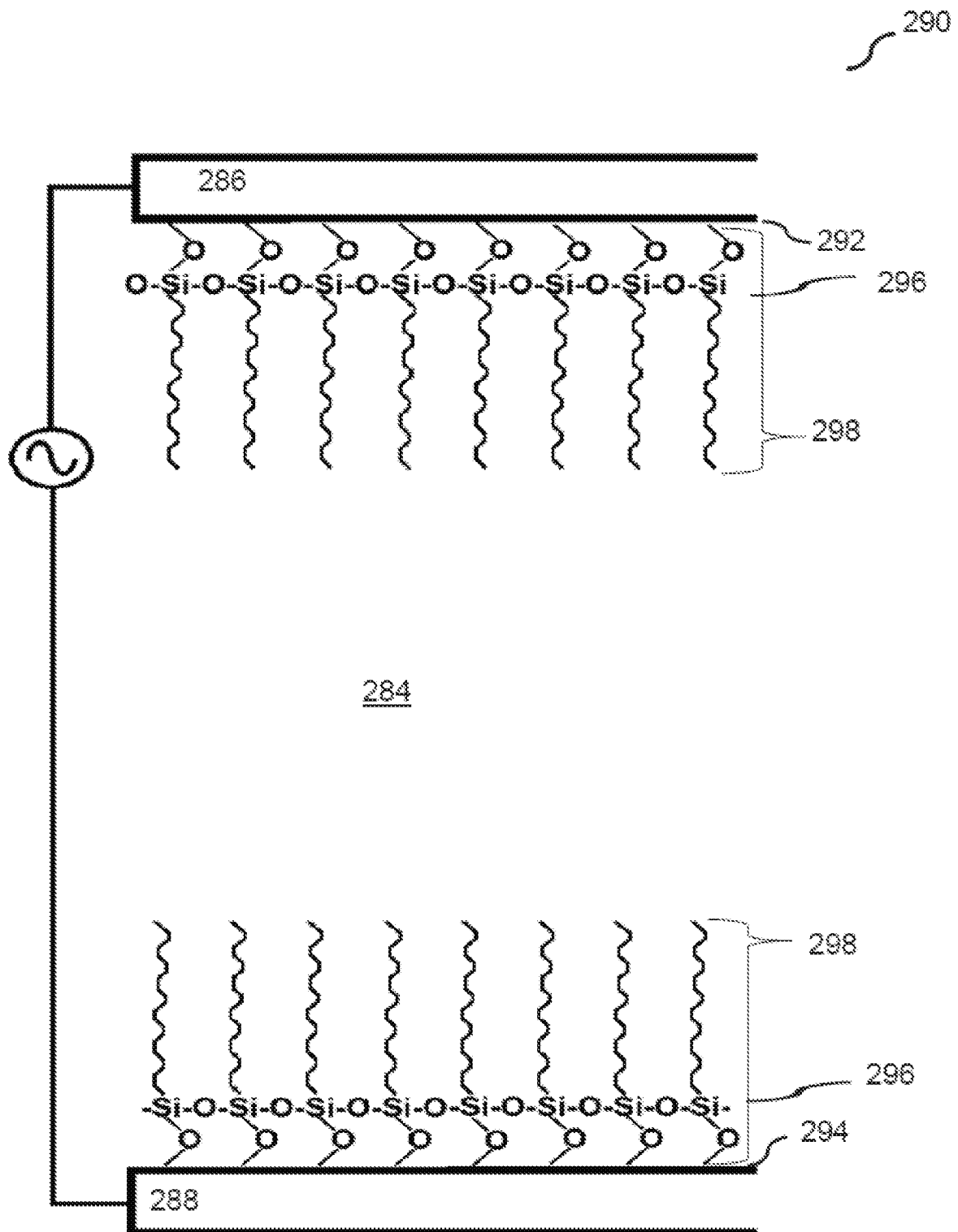


FIG. 2G

**FIG. 2H**

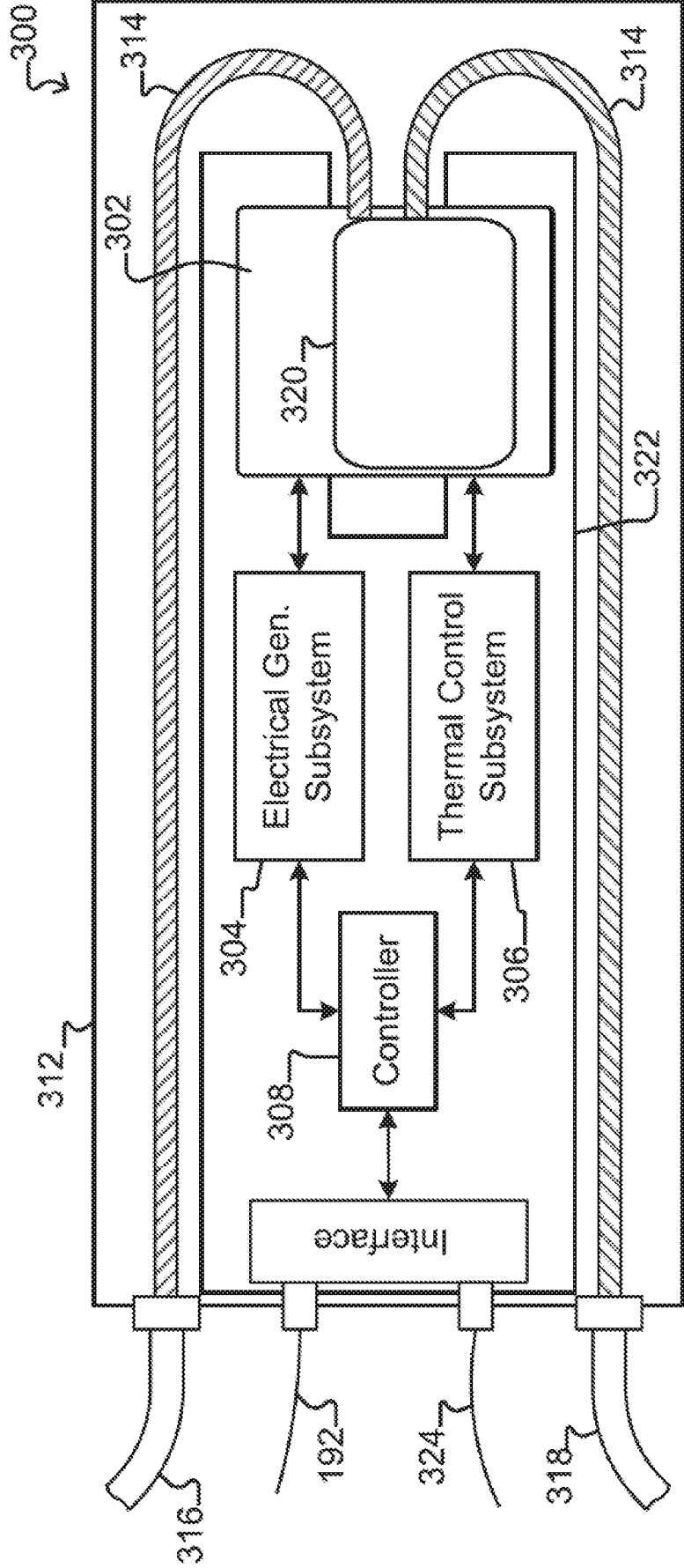


FIG. 3A

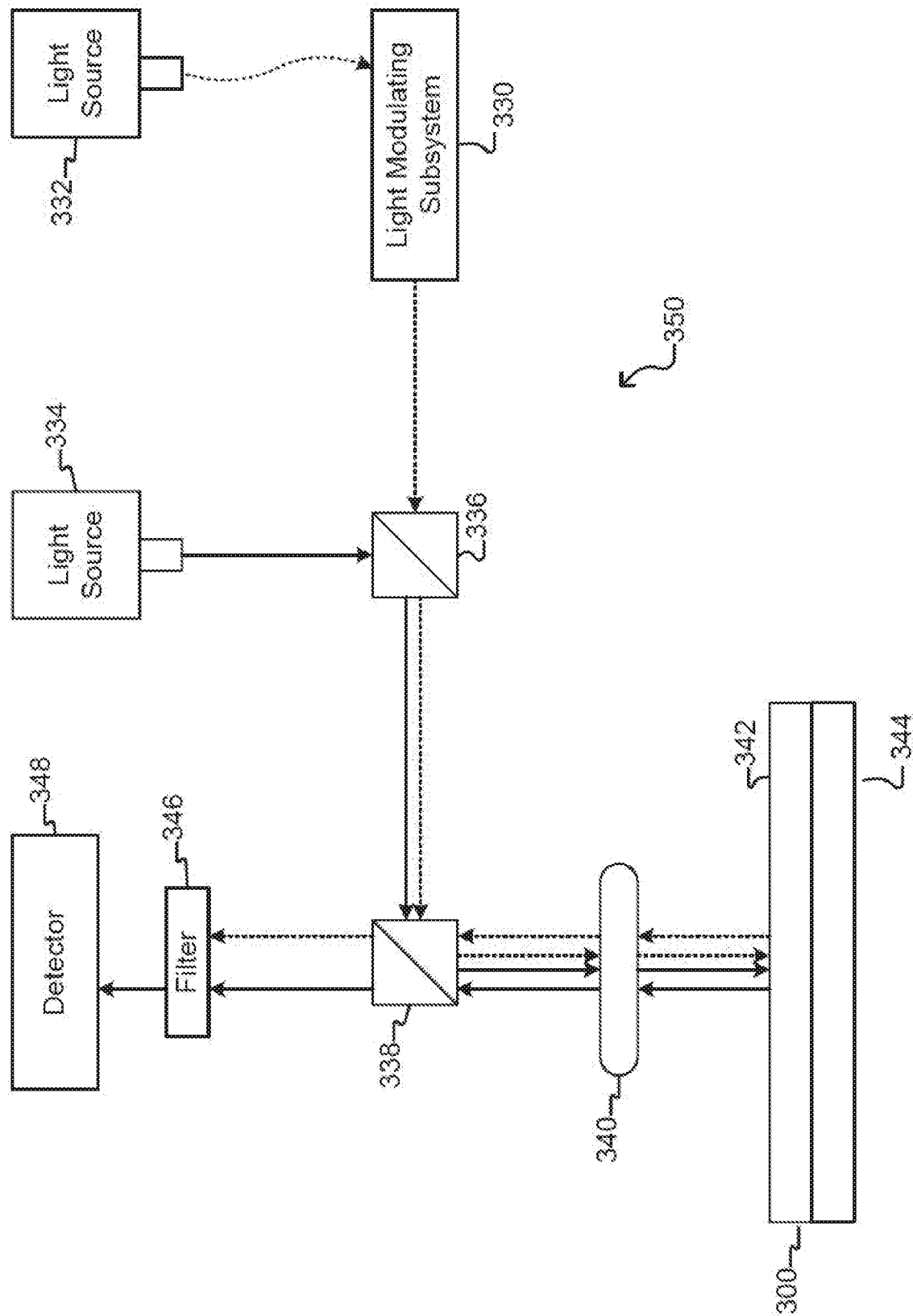


FIG. 3B

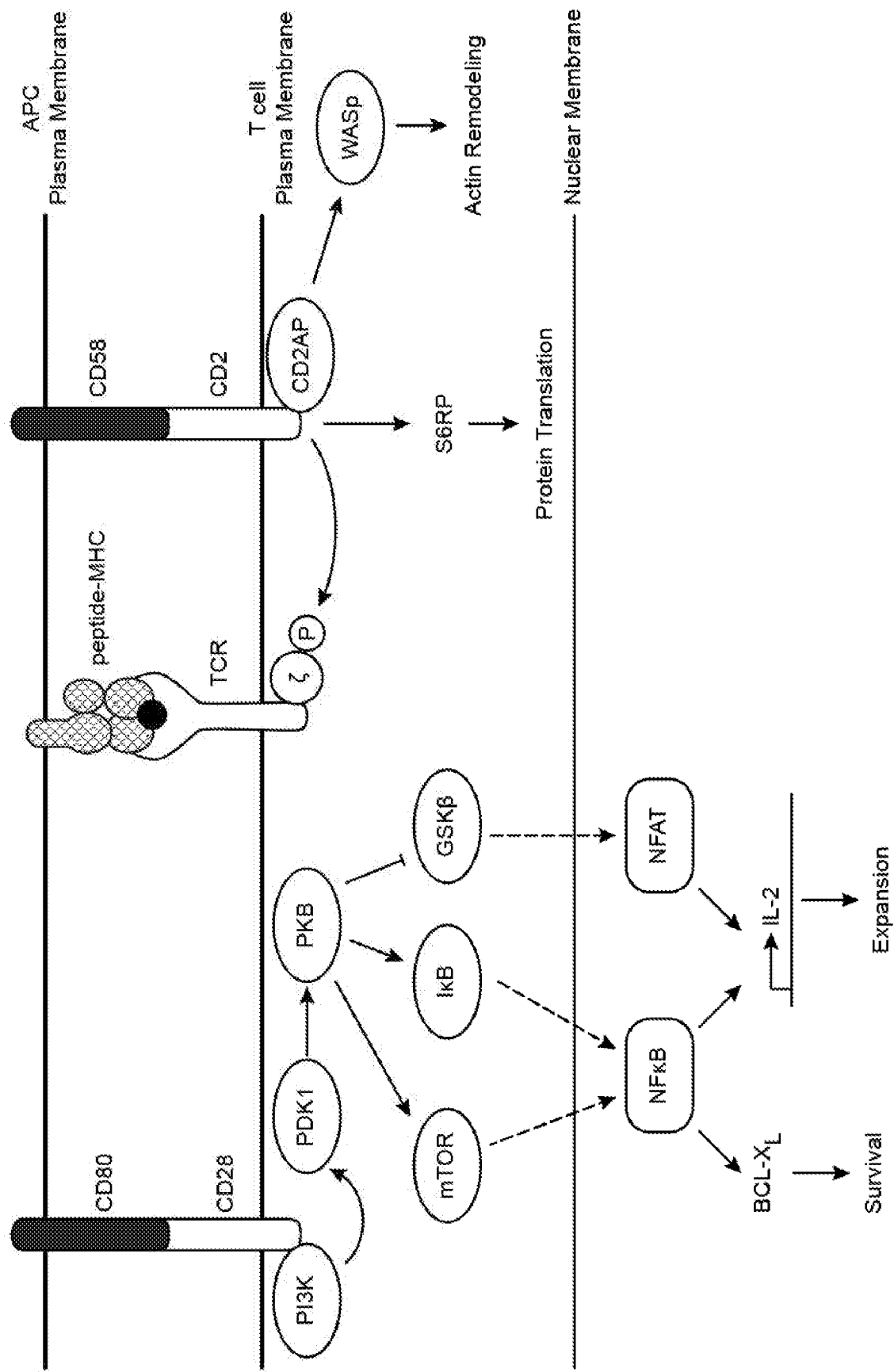
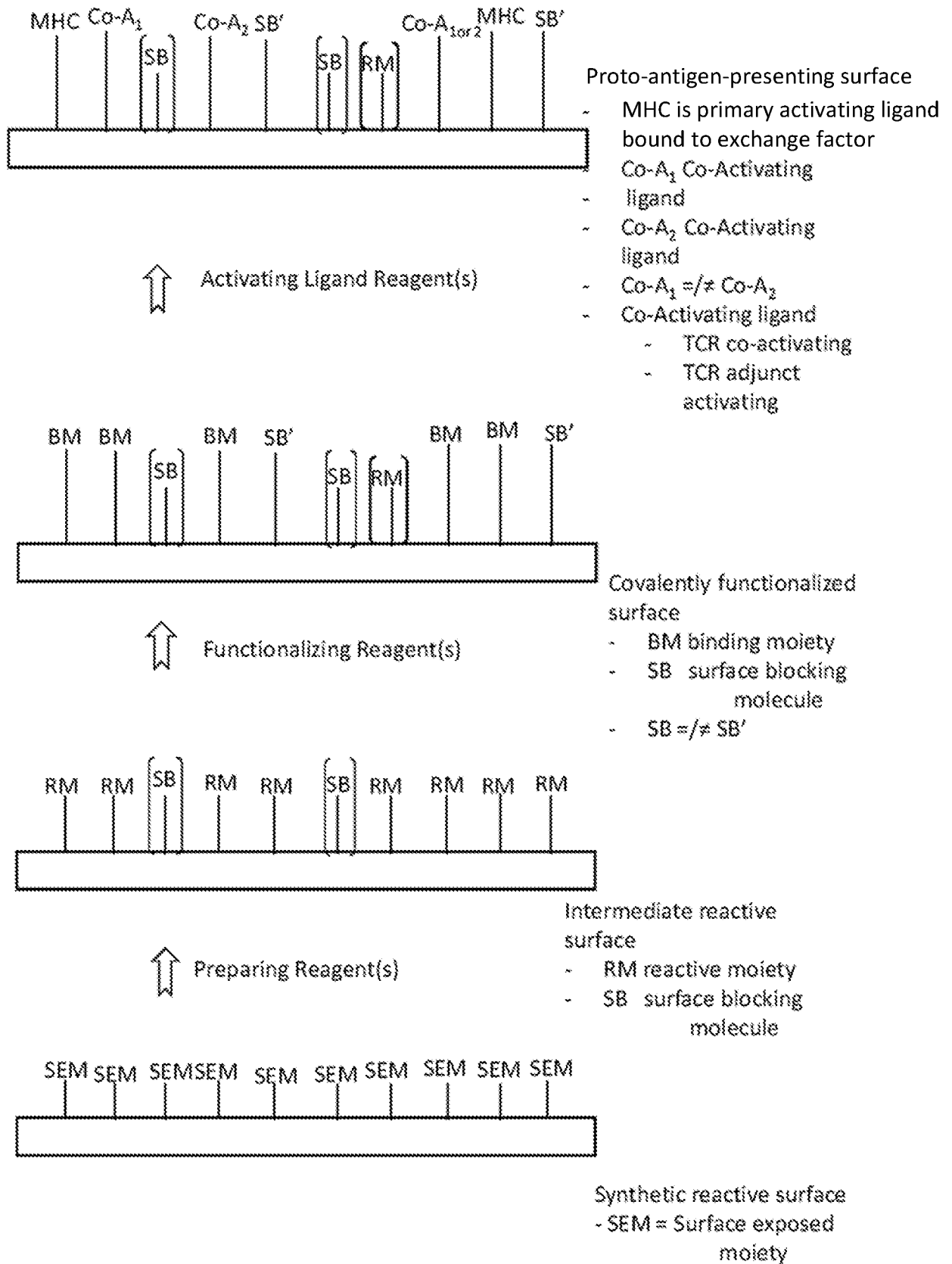
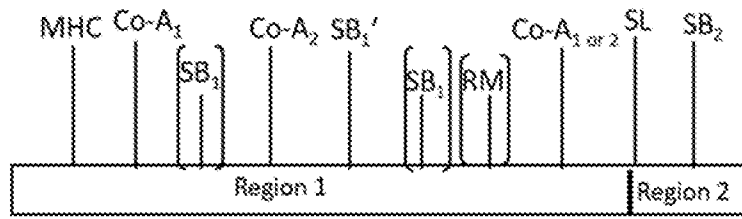


FIG. 4

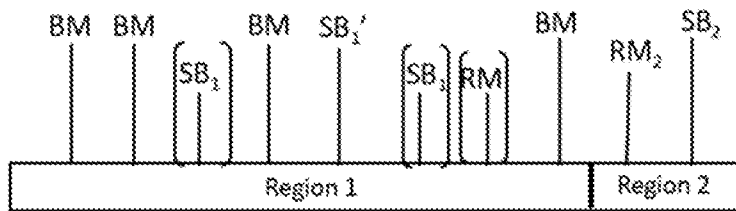
**FIG. 5A**



↑ Activating Ligand Reagent(s)

Proto-antigen-presenting surface

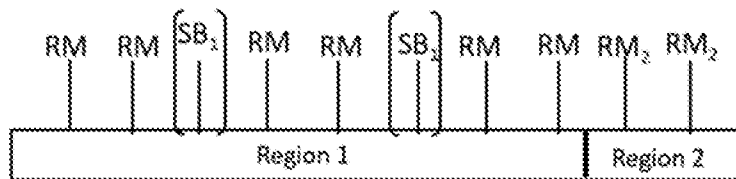
- MHC is primary activating ligand bound to exchange factor
- Co-A₁ is Co-Activating ligand
- Co-A₂ is Co-Activating ligand
- Co-A₁ ≠ Co-A₂
- Co-Activating ligand
 - TCR co-activating
 - TCR adjunct activating
- SL is Secondary ligand
- SB₁ ≠ SB₁' ≠ SB₂



↑ Functionalizing Reagent(s)

Covalently functionalized surface

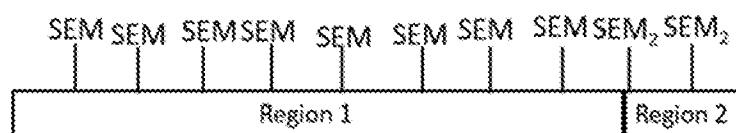
- BM binding moiety
- SB surface blocking molecule
- SB₁ ≠ SB₁' ≠ SB₂



↑ Preparing Reagent(s)

Intermediate reactive surface

- RM reactive moiety
- SB₁ surface blocking molecule



Synthetic reactive surface

- SEM = Surface exposed moiety

FIG. 5B

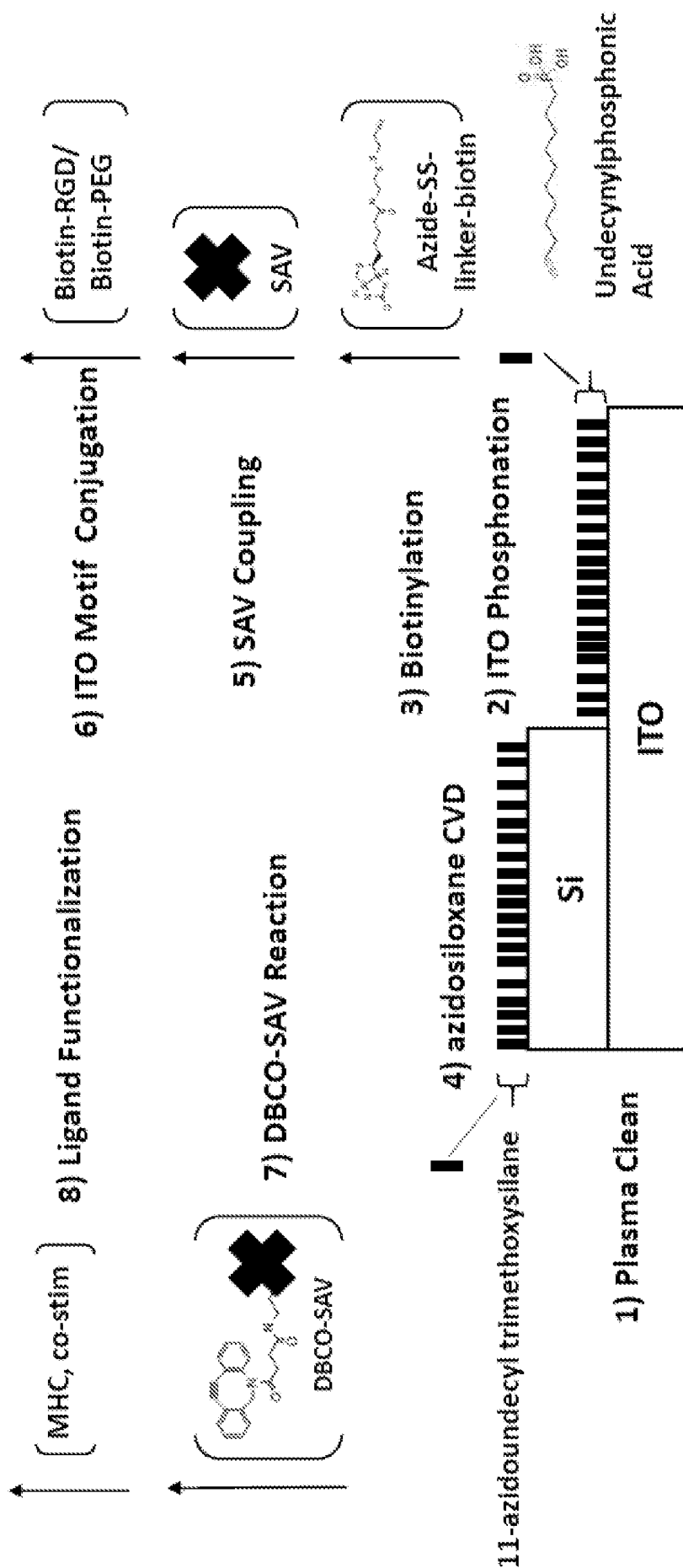


FIG. 6

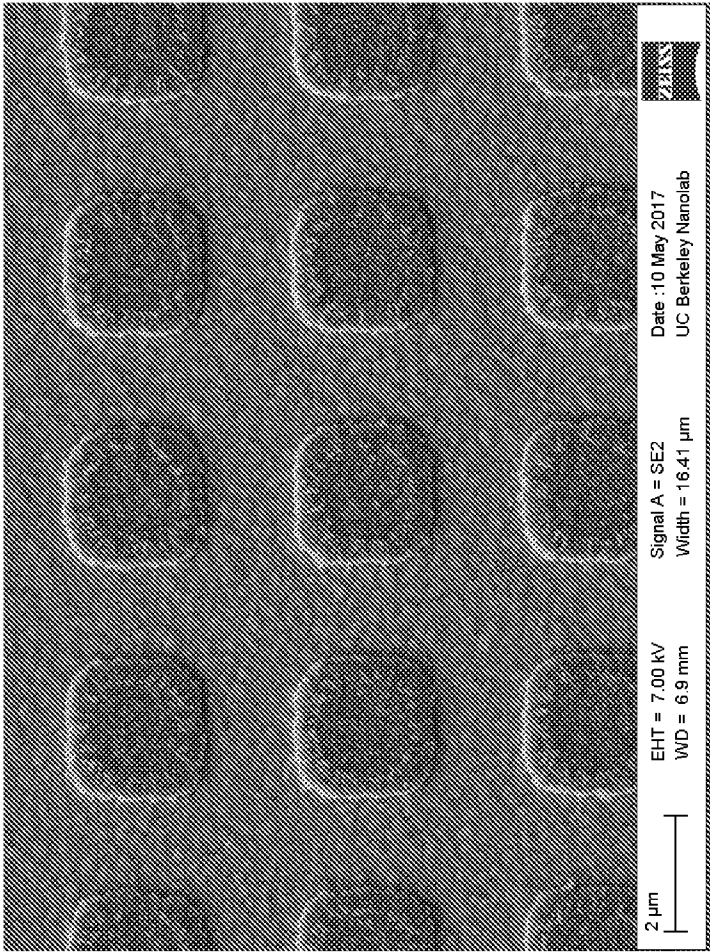


FIG. 7B

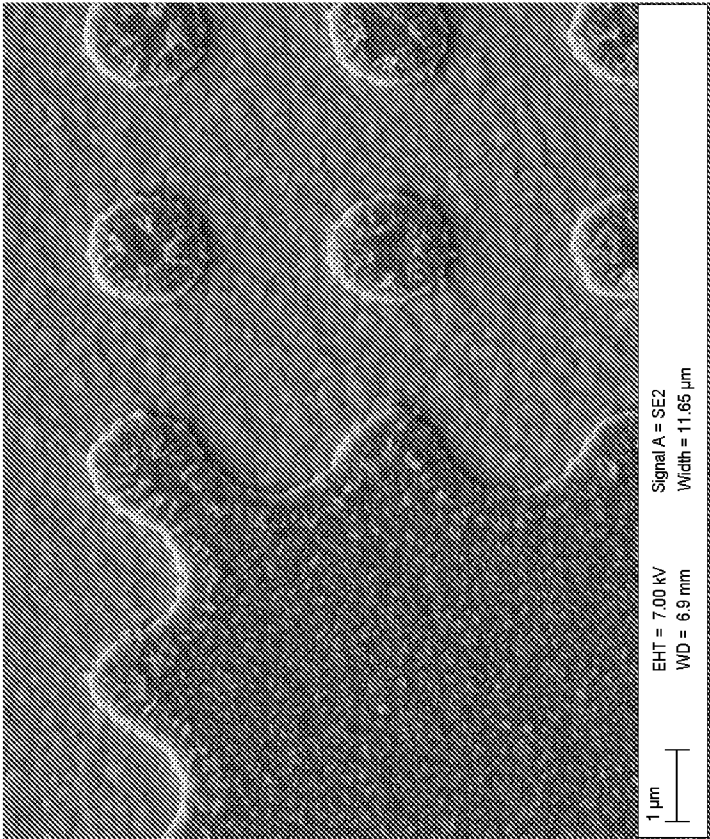
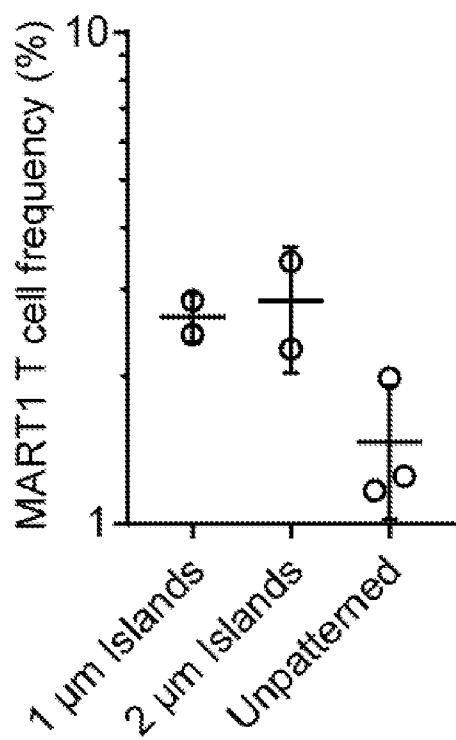
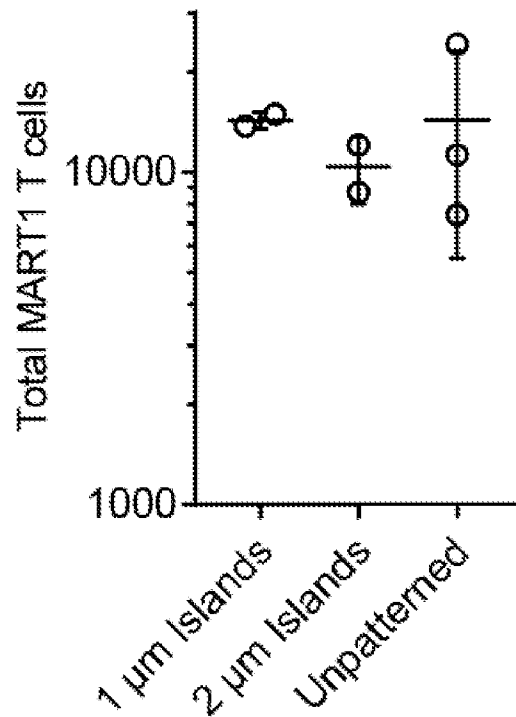
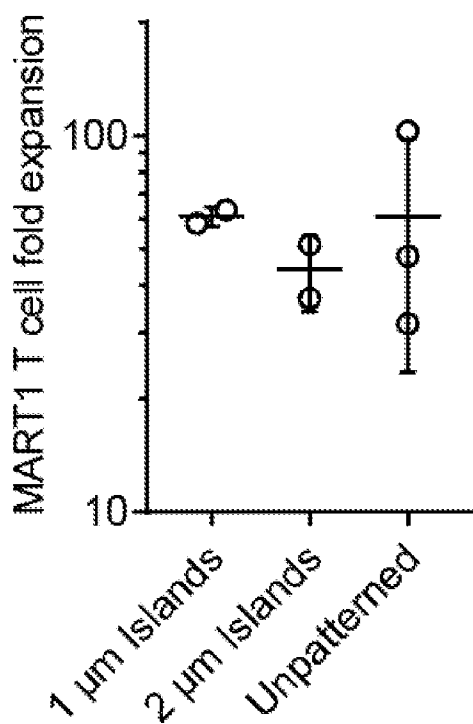
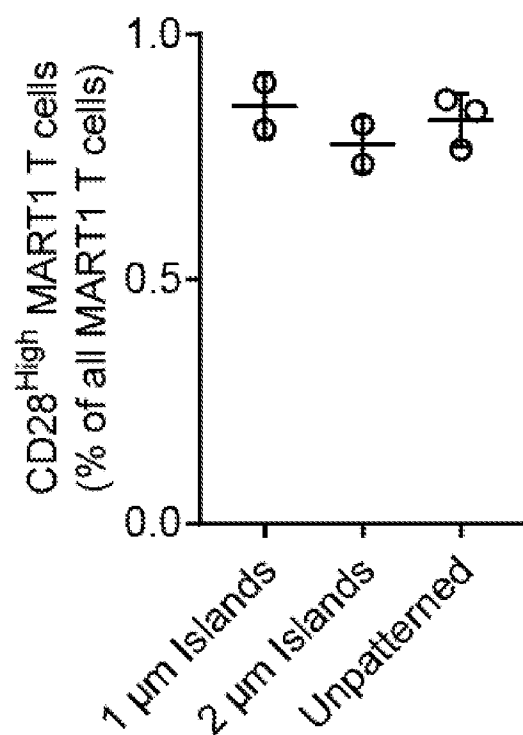
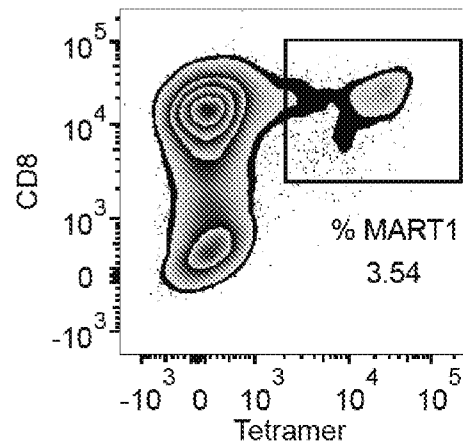
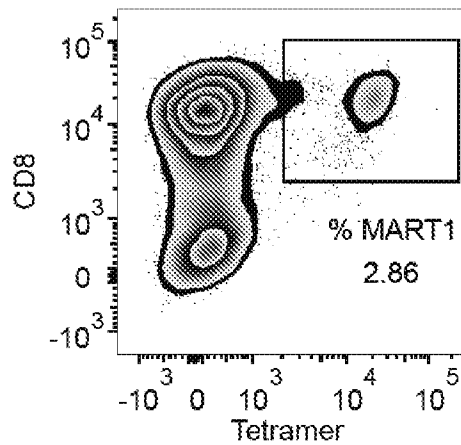
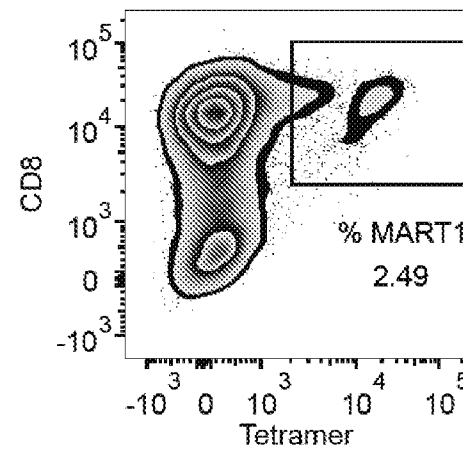
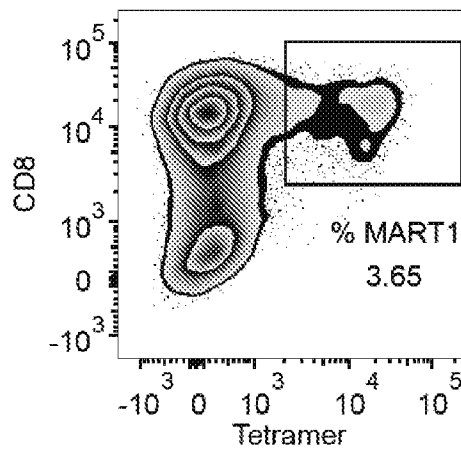
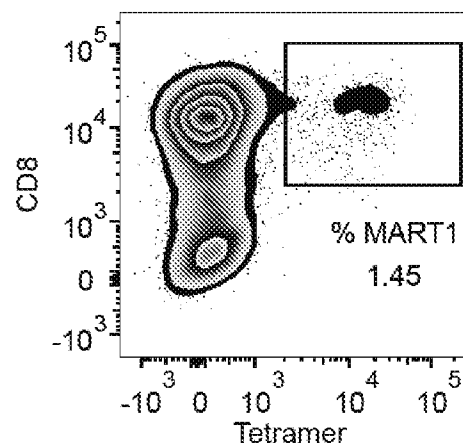
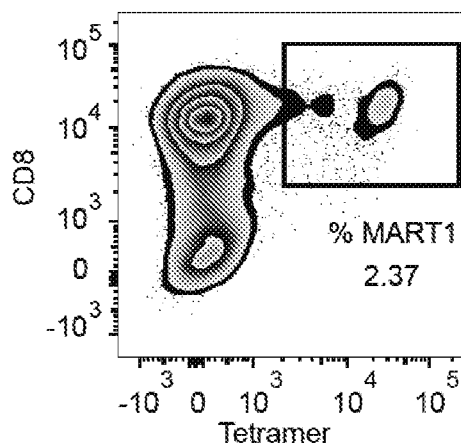


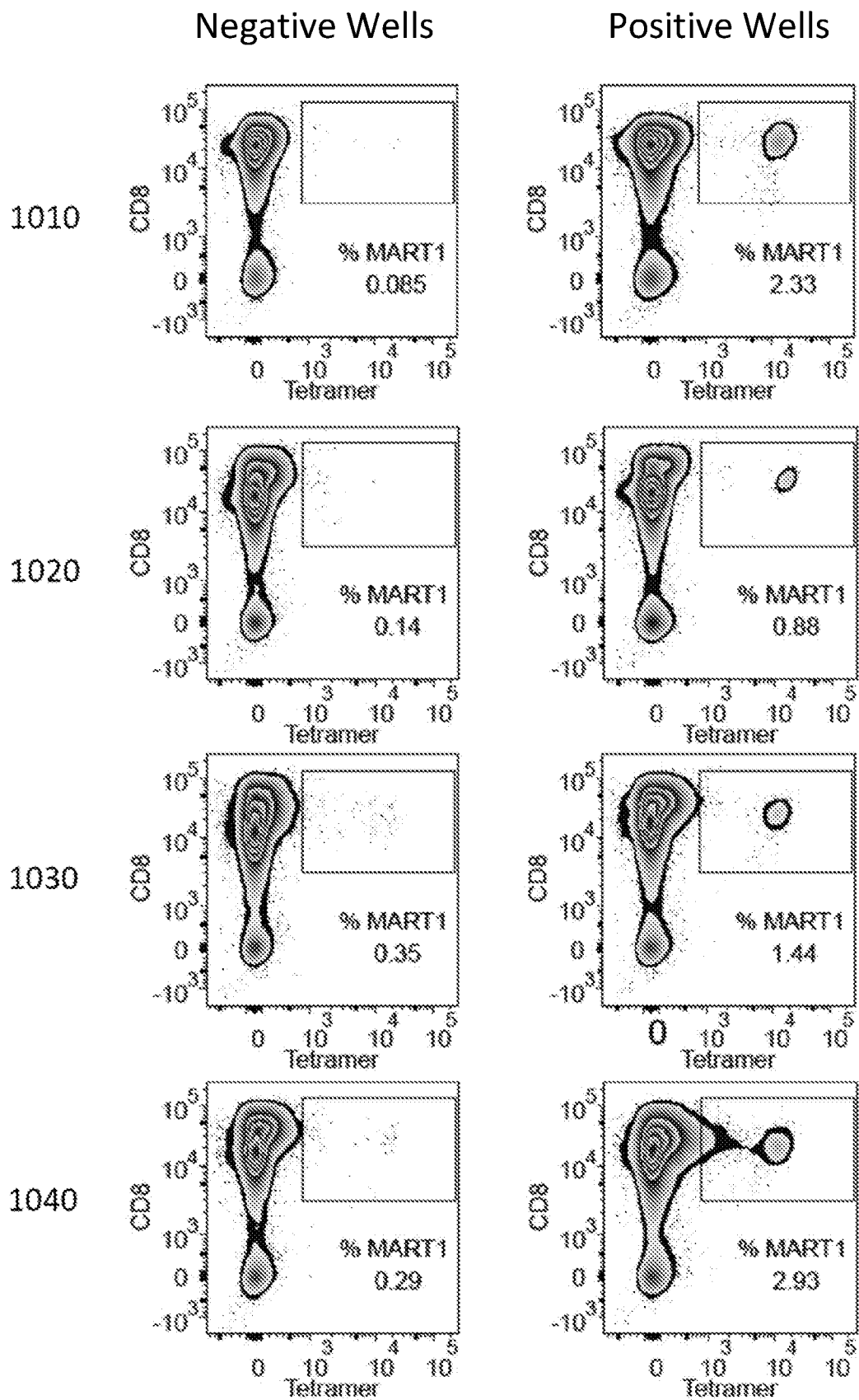
FIG. 7A

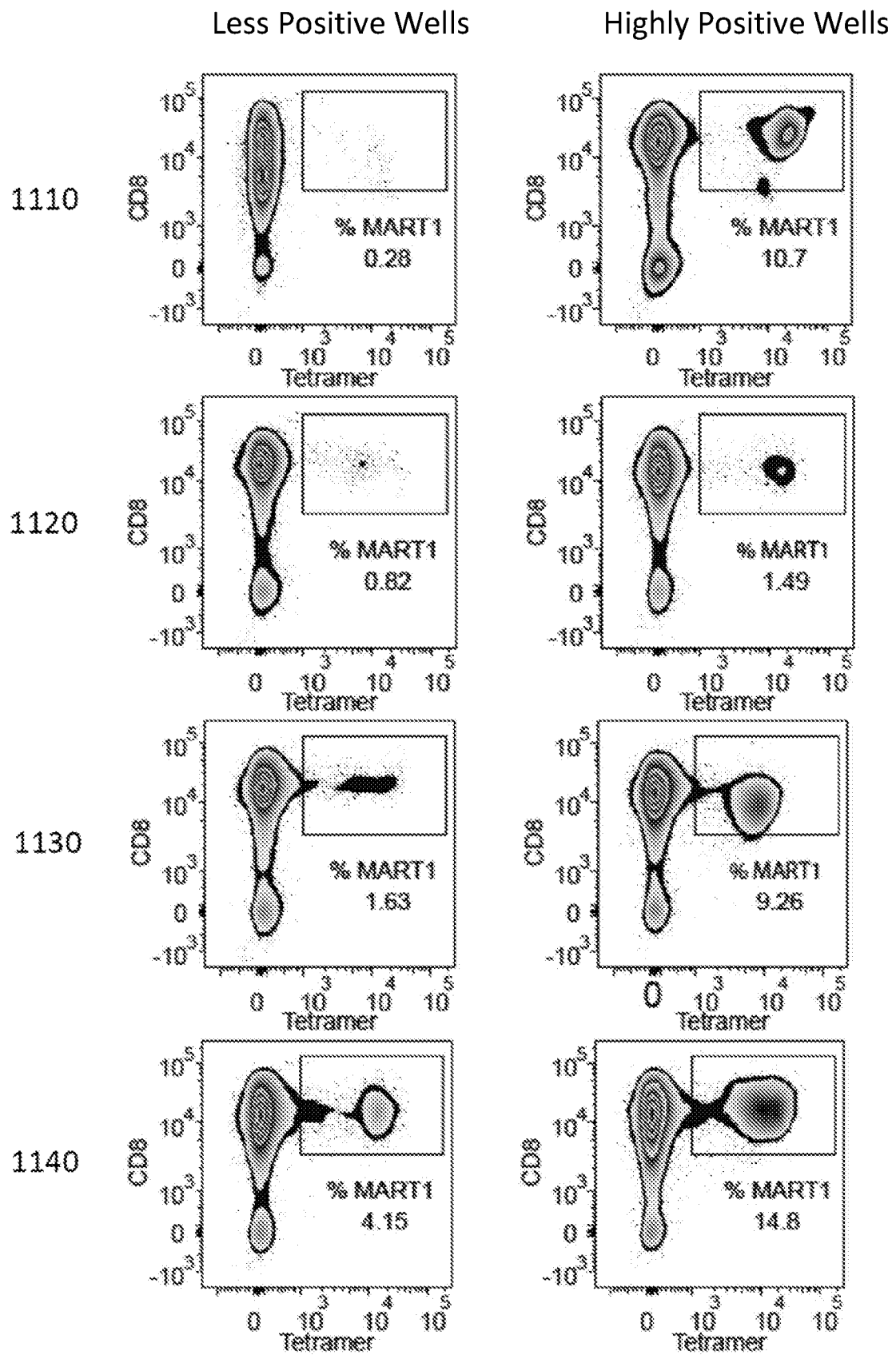
**FIG. 8A****FIG. 8B****FIG. 8C****FIG. 8D**

1 μm Islands, 3 μm Pitch2 μm Islands, 4 μm Pitch

Unpatterned

**FIG. 9**

**FIG.10**

**FIG. 11**

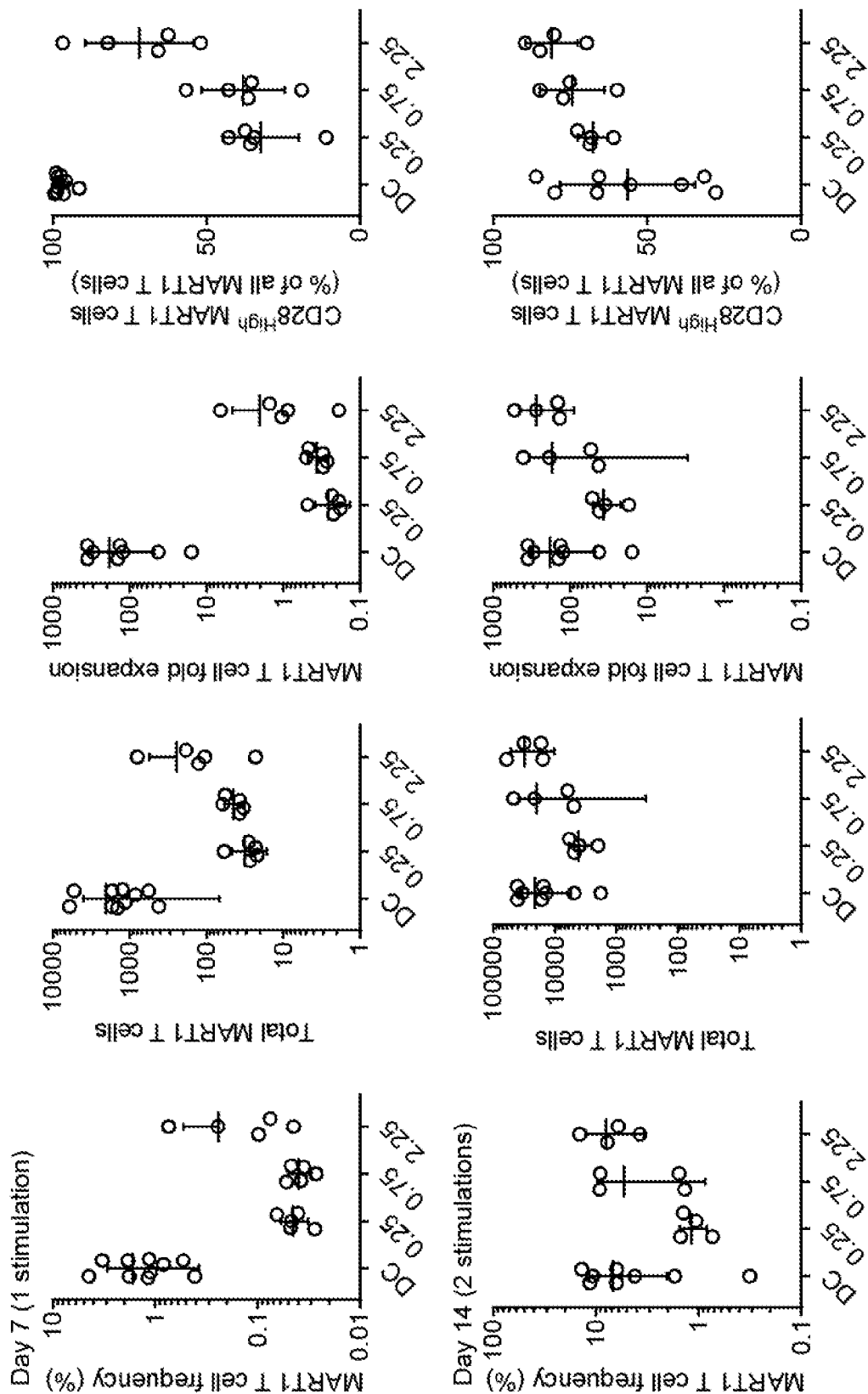
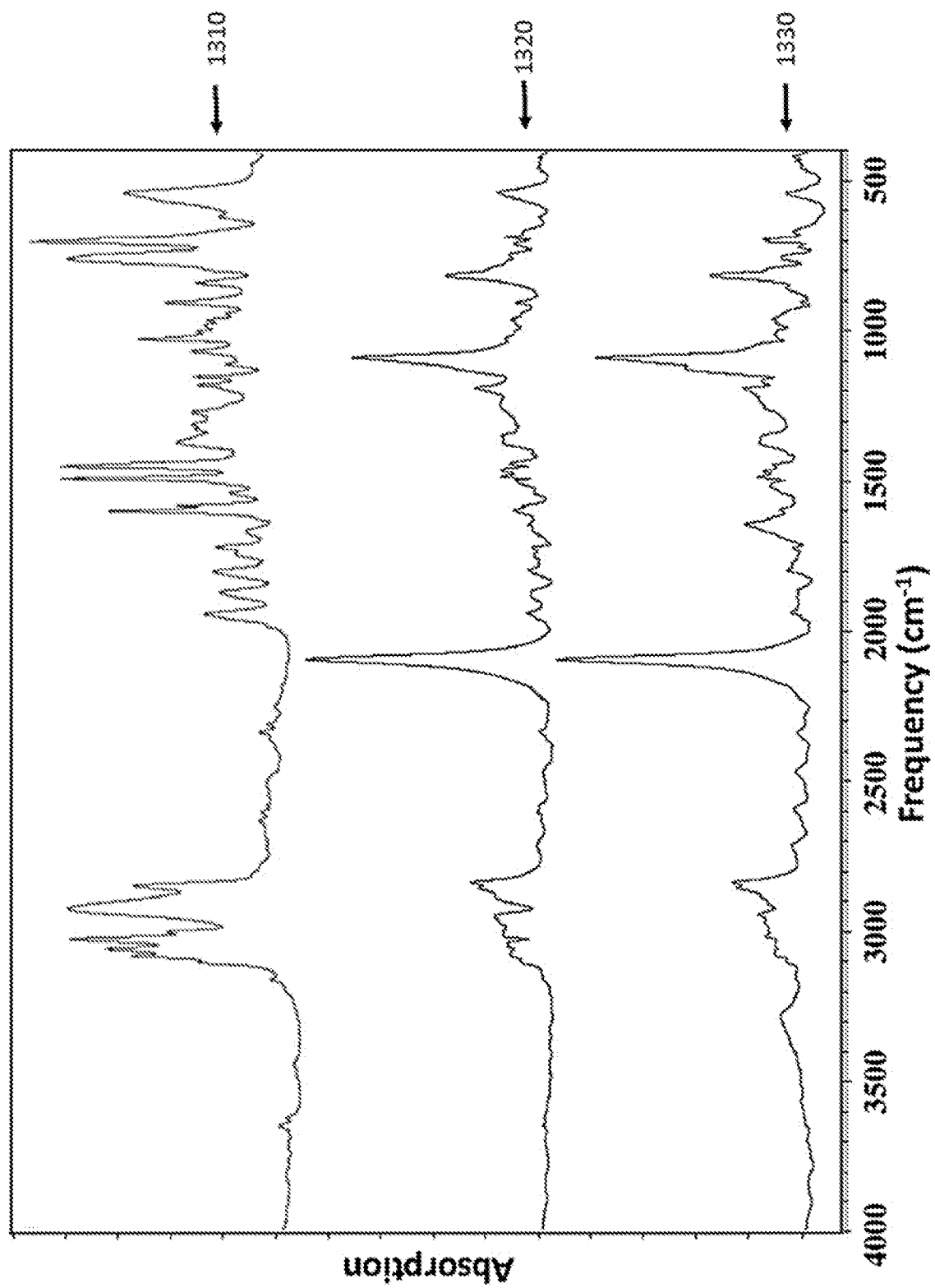


FIG. 12

DC Dendritic cell stimulation
0.25 aAPC stimulation - 0.25 μ g costimulation antibody / 1e7 beads
0.75 aAPC stimulation - 0.75 μ g costimulation antibody / 1e7 beads
2.25 aAPC stimulation - 2.25 μ g costimulation antibody / 1e7 beads

**FIG. 13**

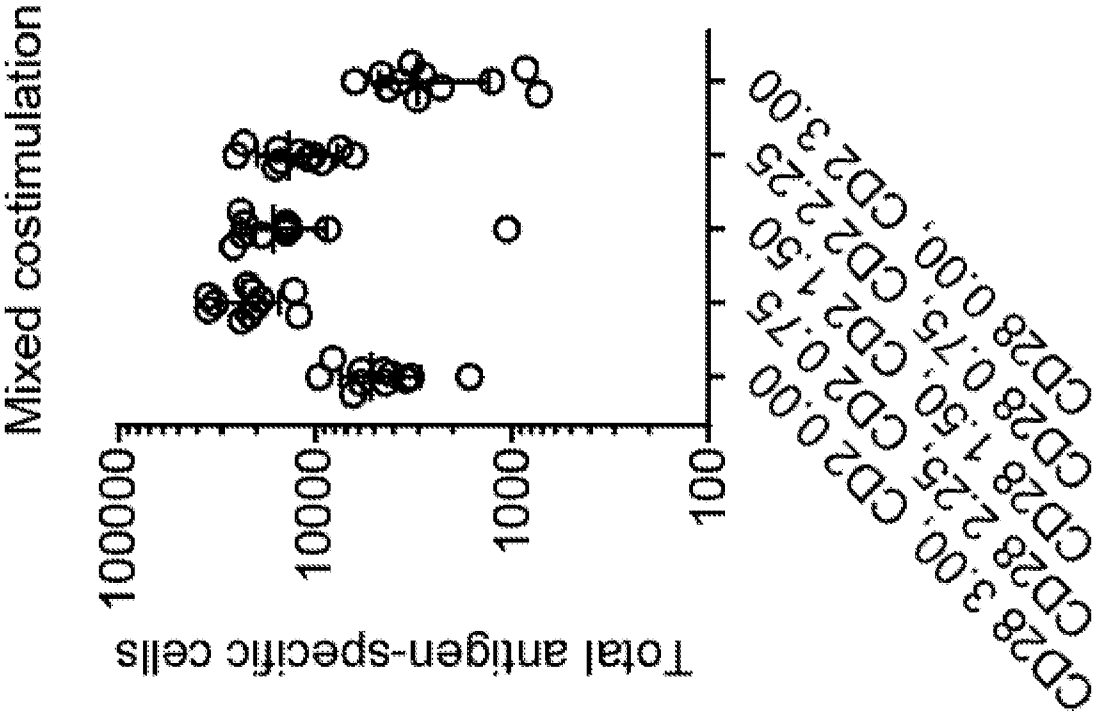


FIG. 14B

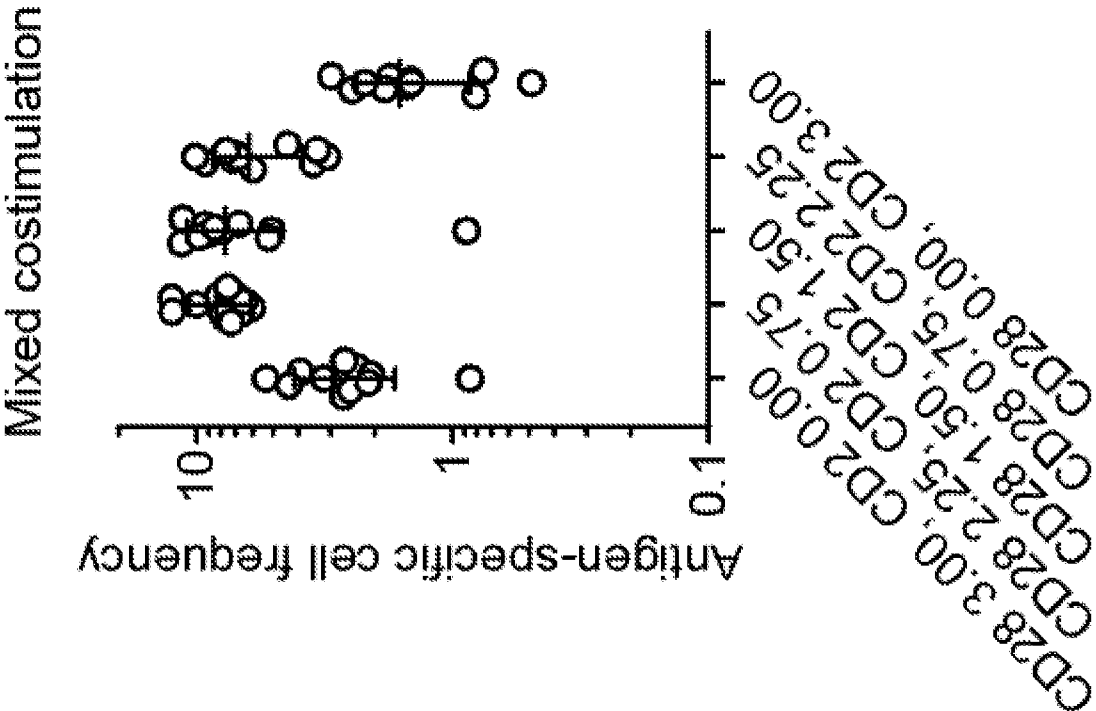


FIG. 14A

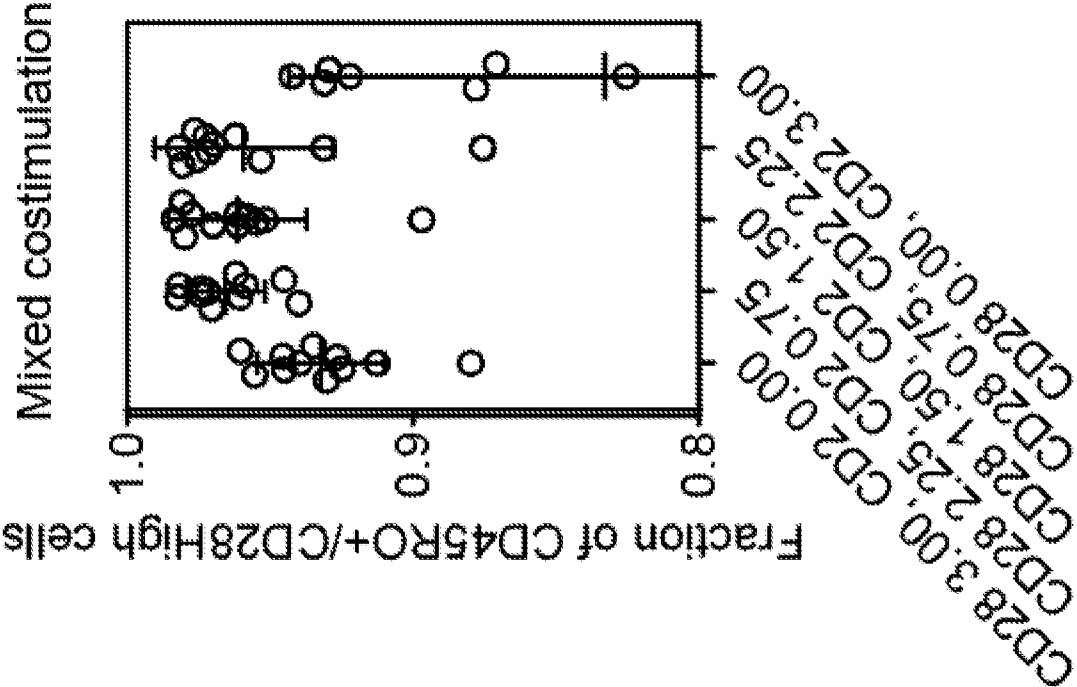


FIG. 14D

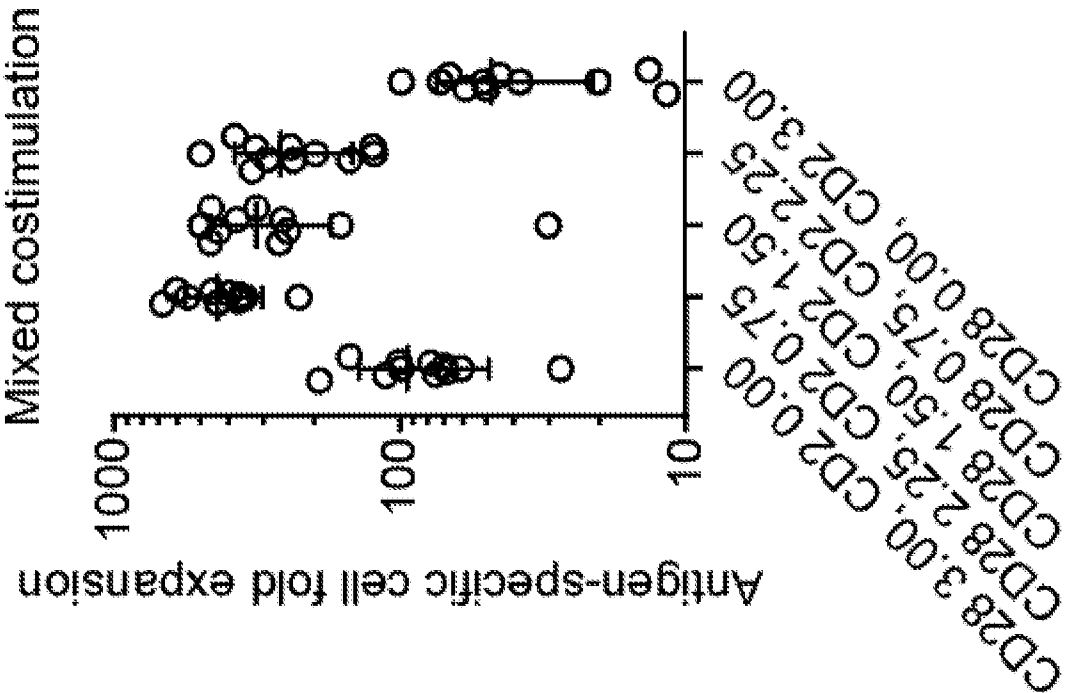


FIG. 14C

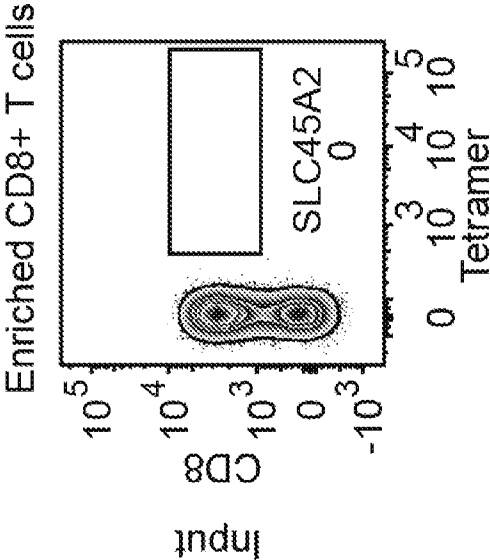


FIG. 15A

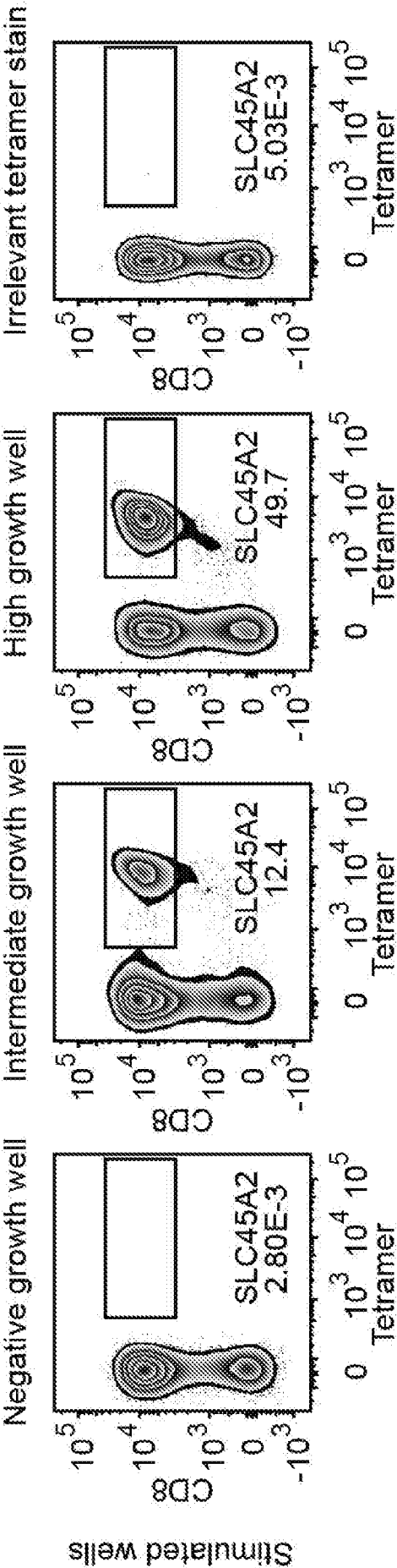


FIG. 15B

FIG. 15C

FIG. 15D

FIG. 15E

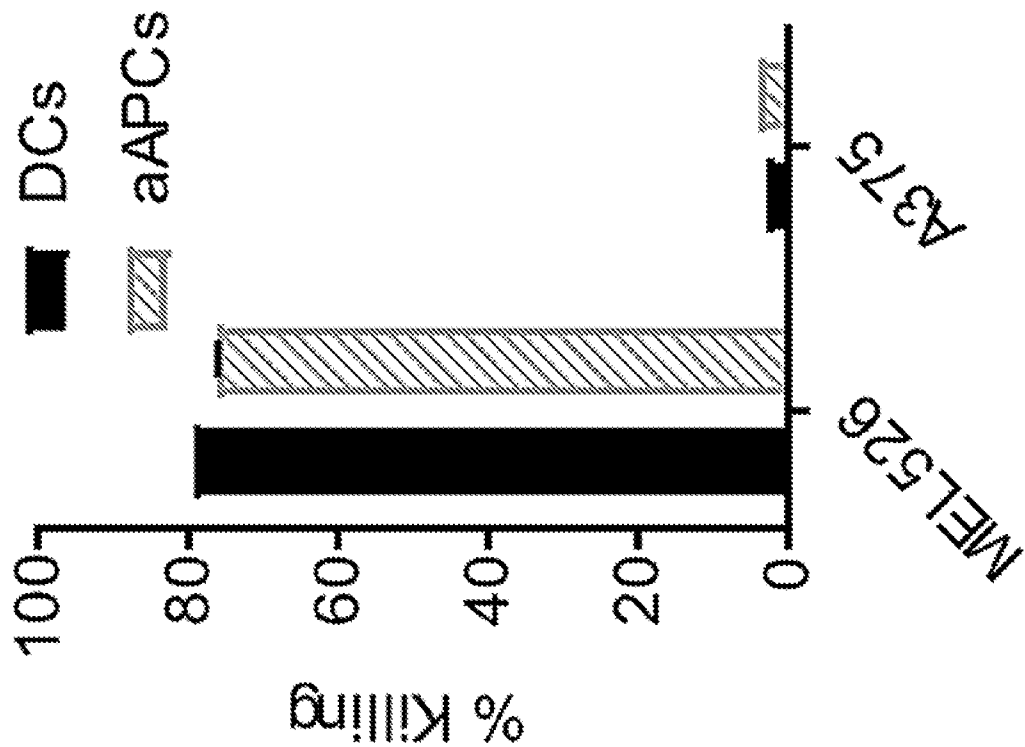


FIG. 17

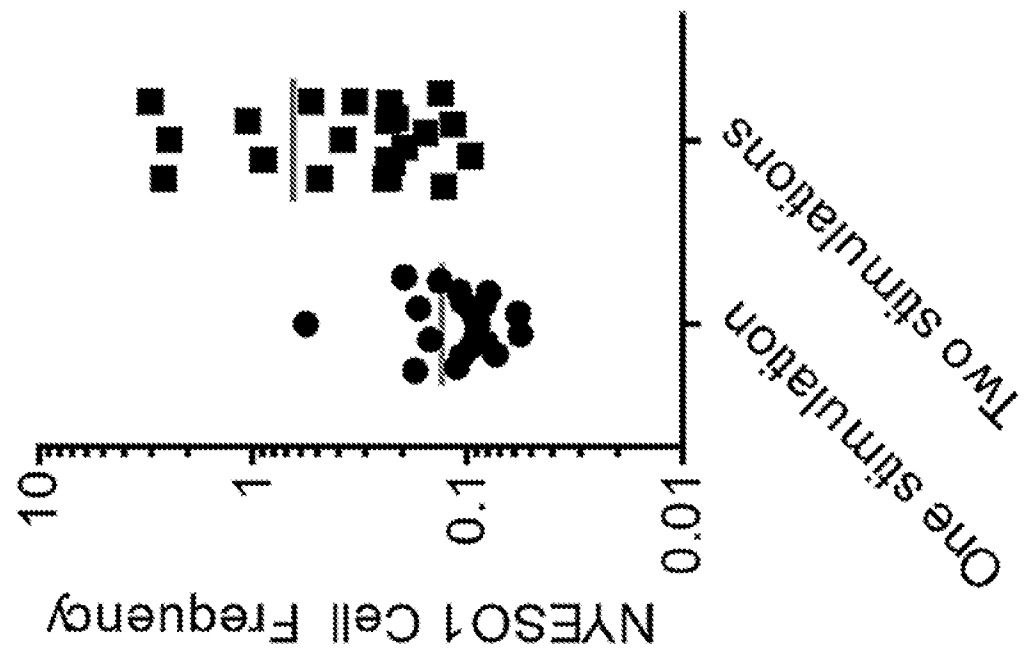


FIG. 16

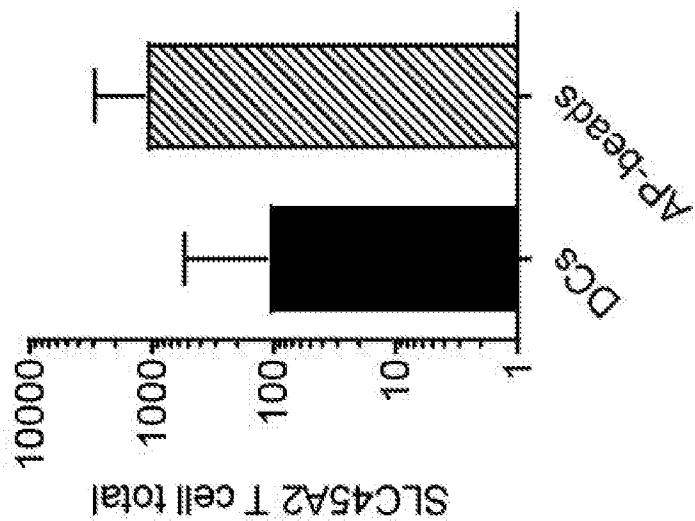


FIG. 18C

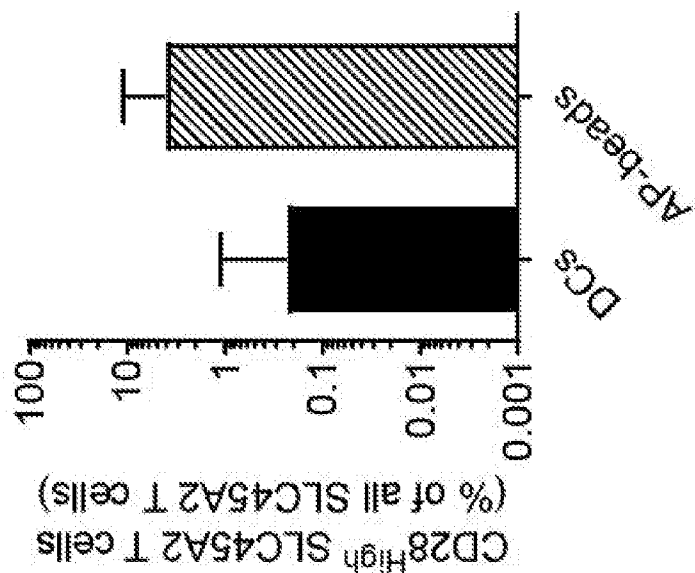


FIG. 18B

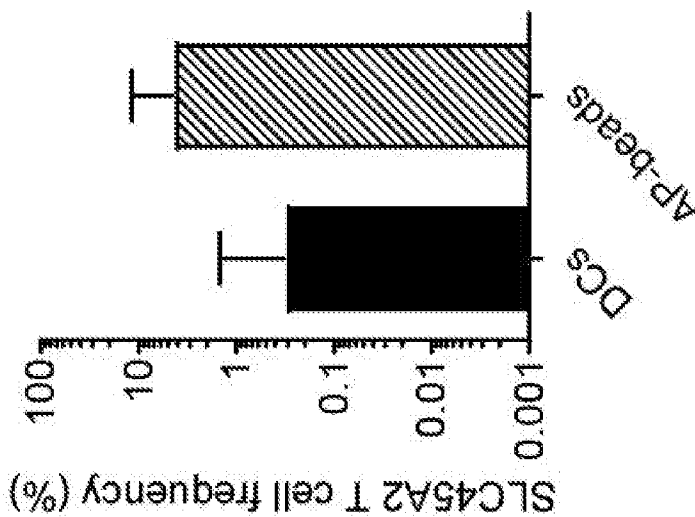


FIG. 18A

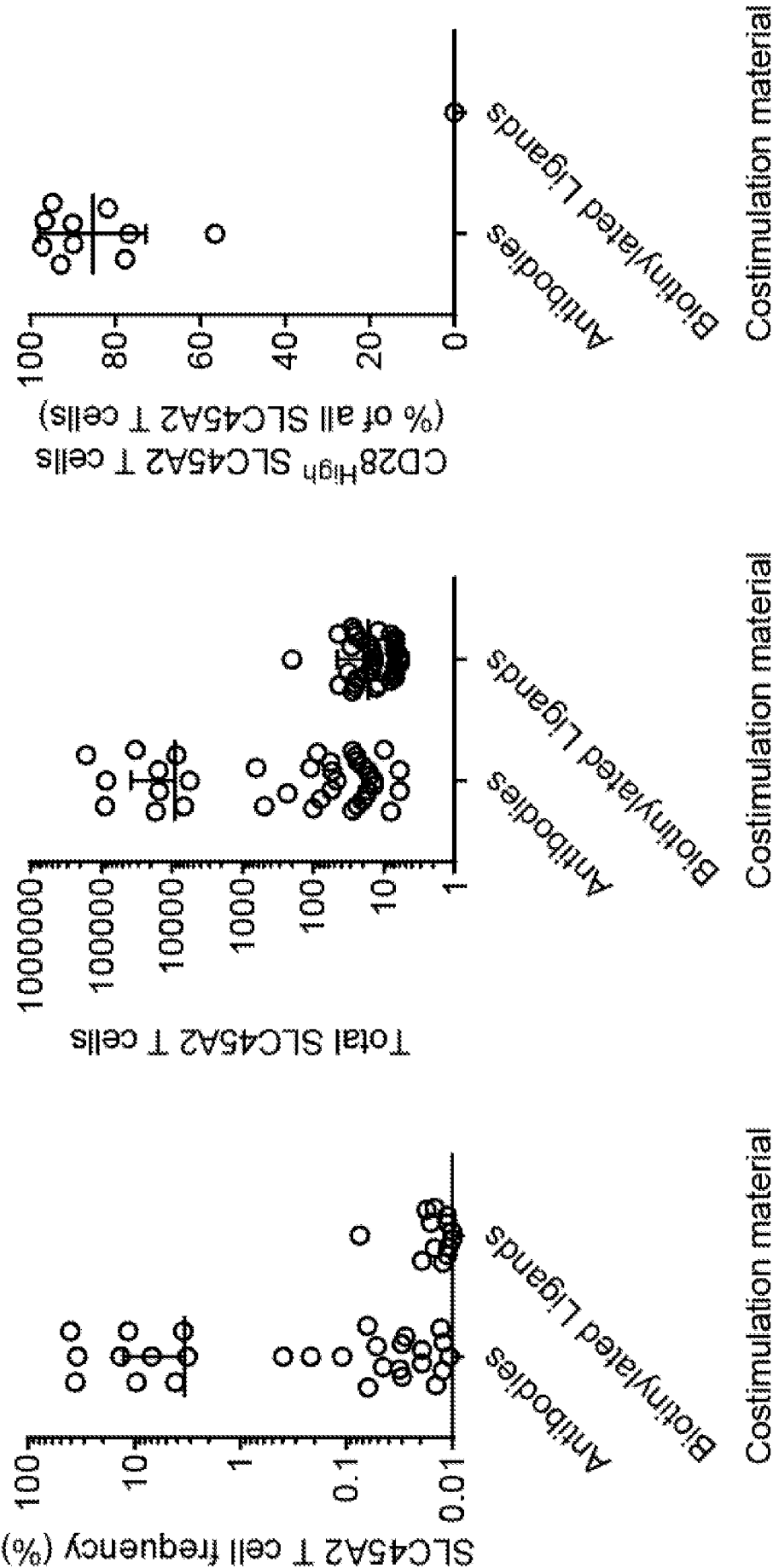


FIG. 19C

FIG. 19B

FIG. 19A

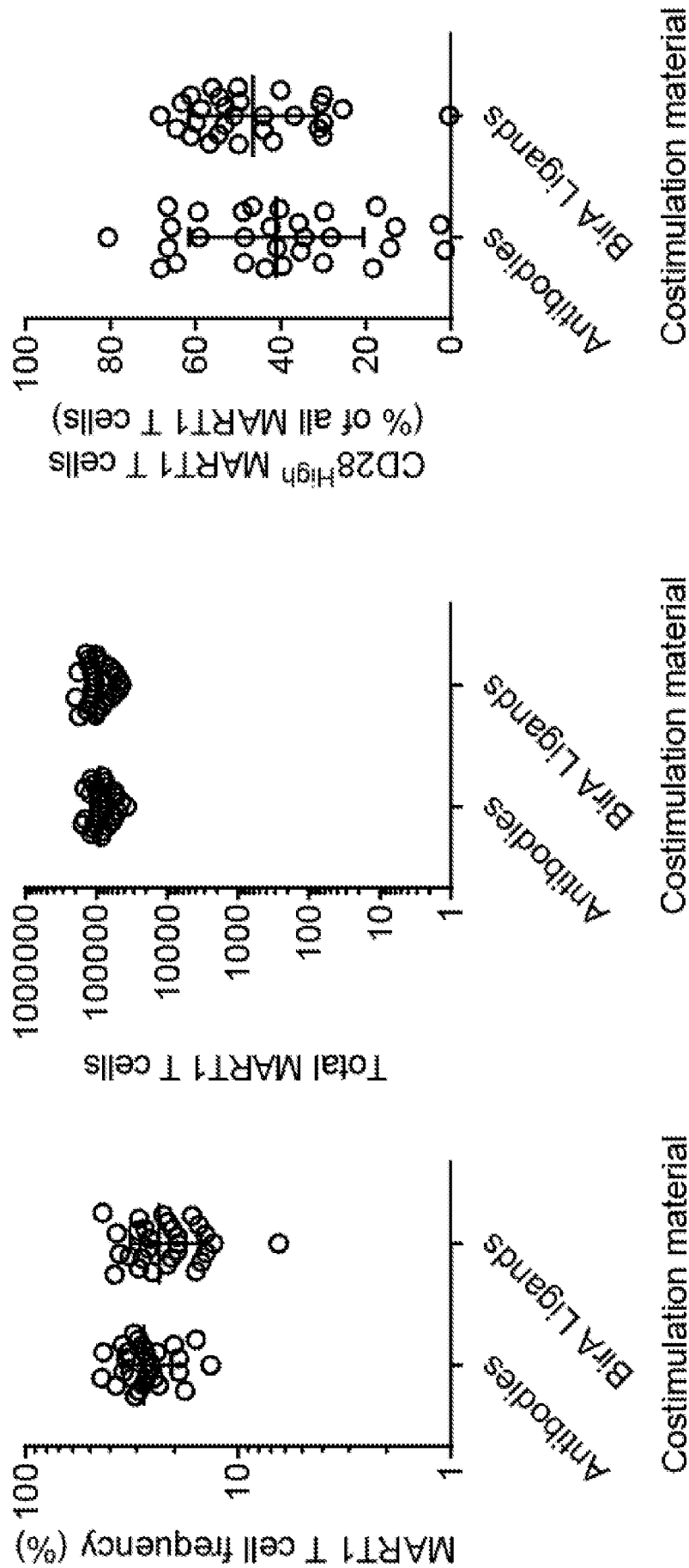
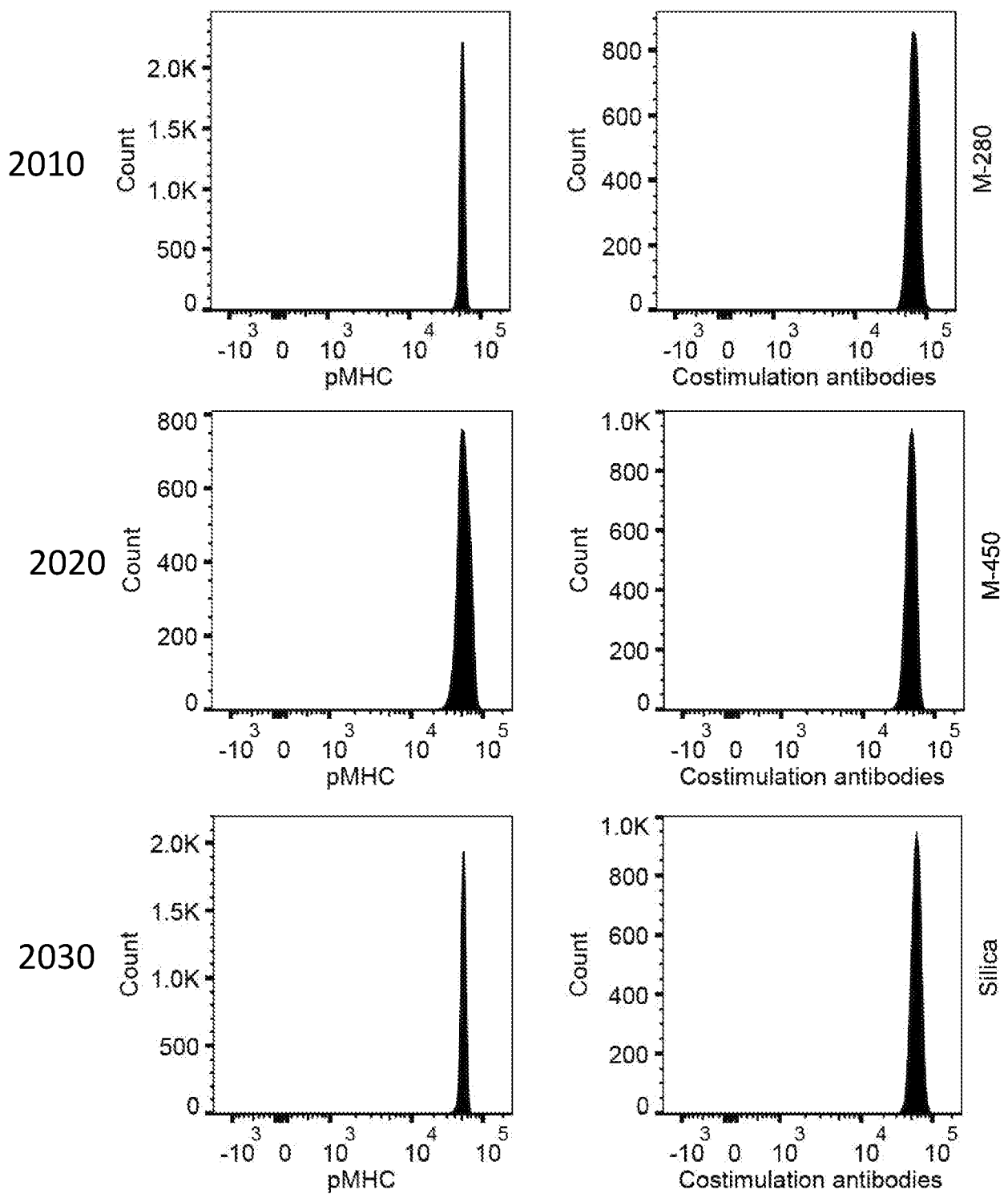
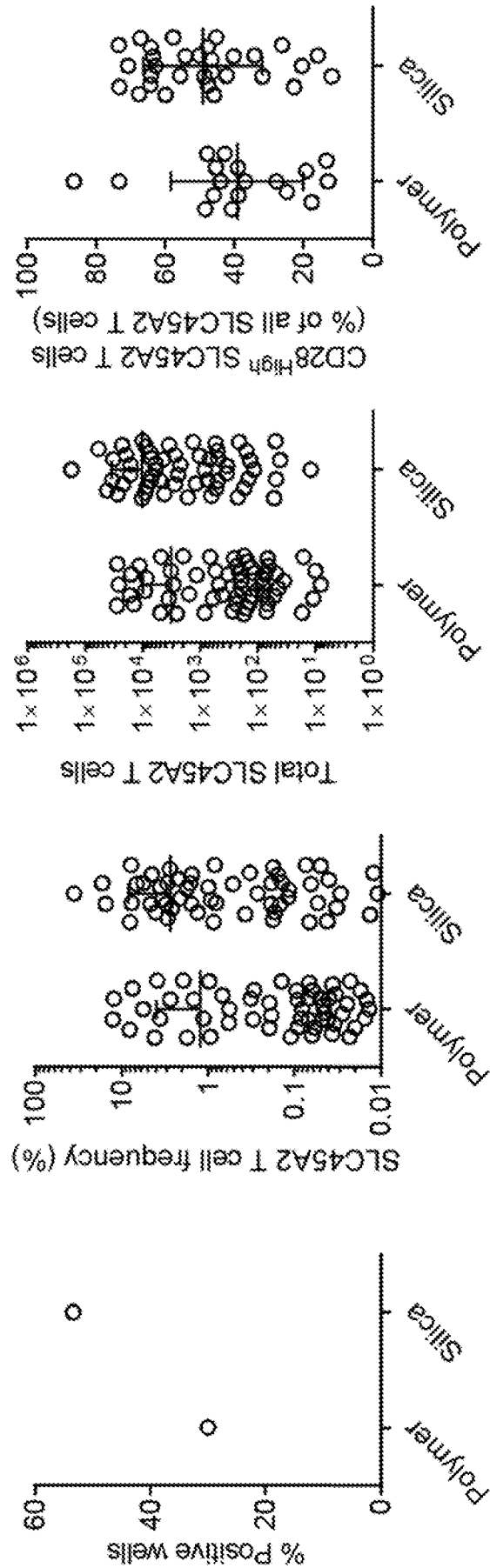


FIG. 19D

FIG. 19E

FIG. 19F

**FIG. 20A**



Polymer = convoluted 2.8 micron polymeric bead

FIG. 20B

FIG. 20C

FIG. 20D

FIG. 20E

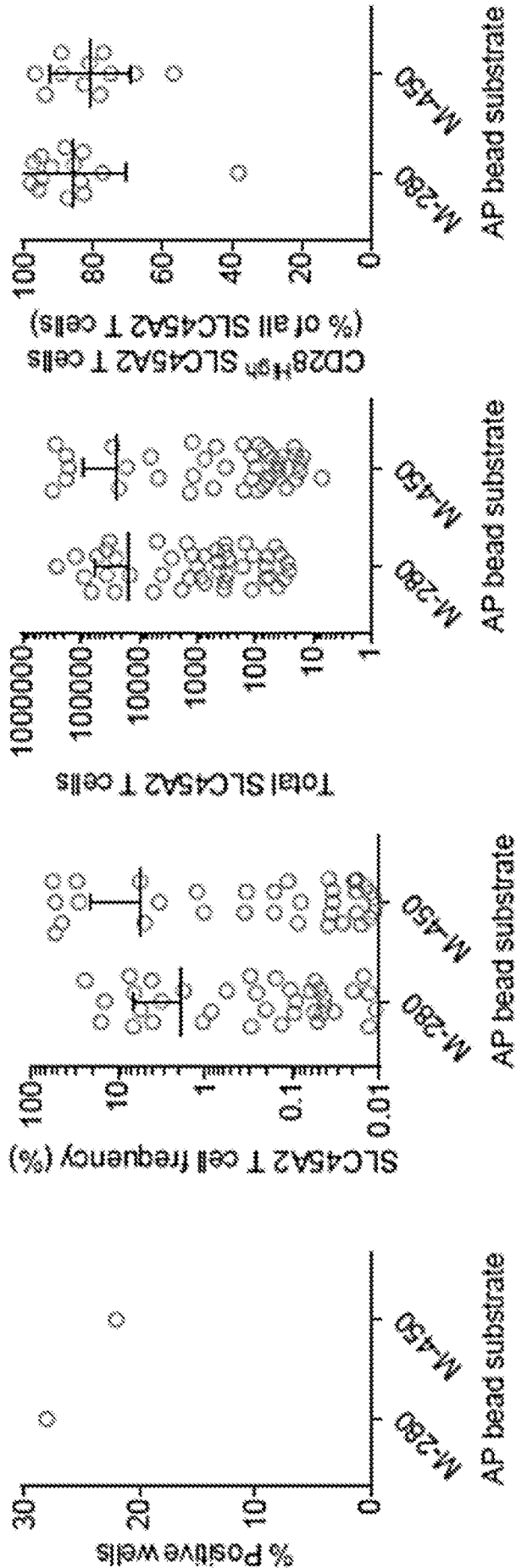
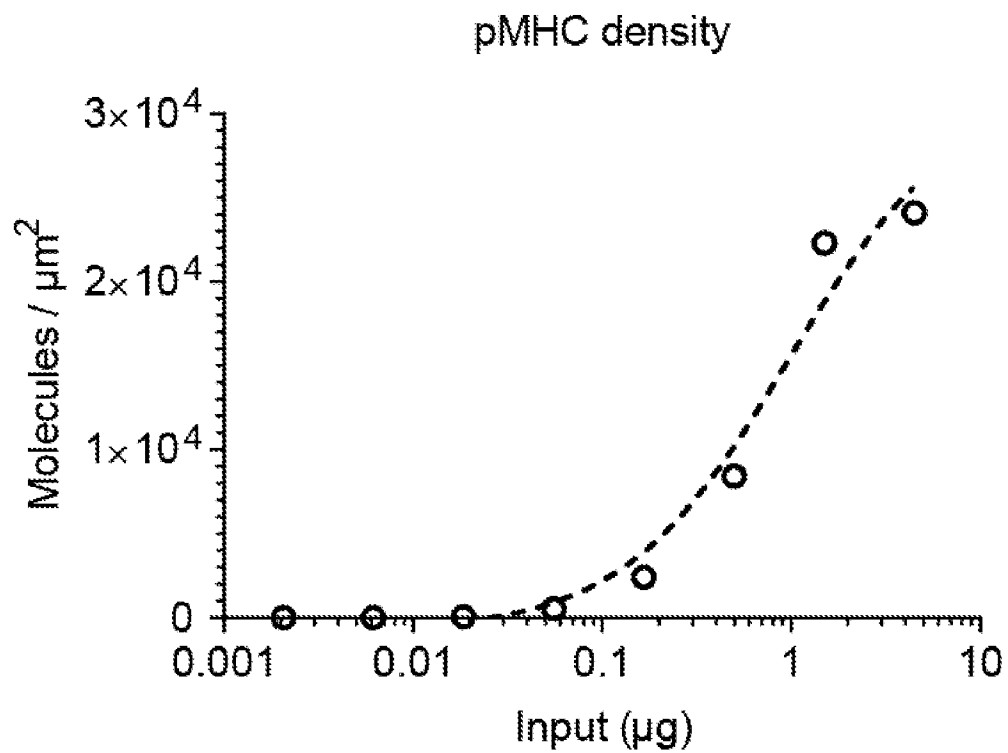
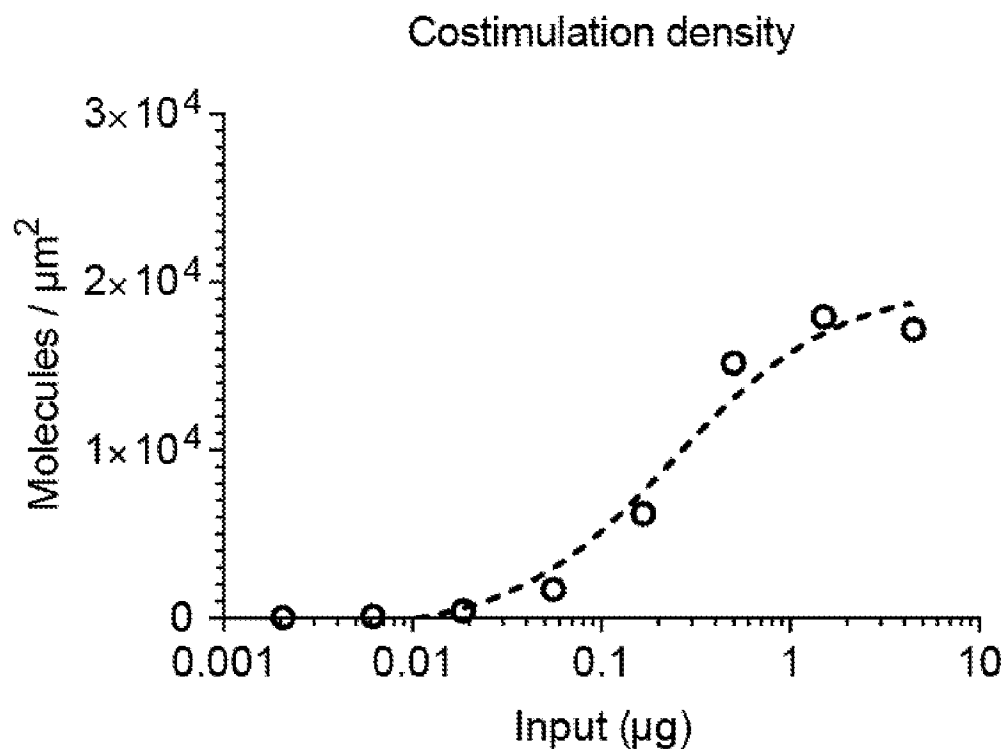


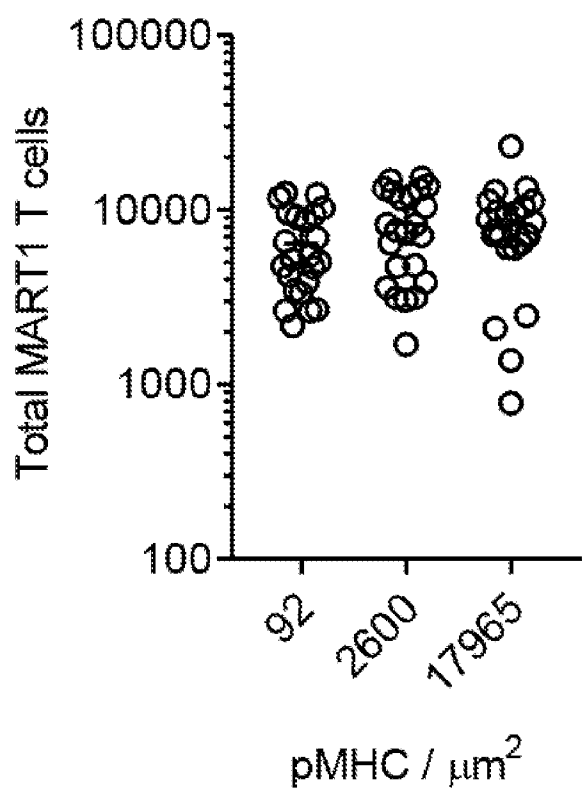
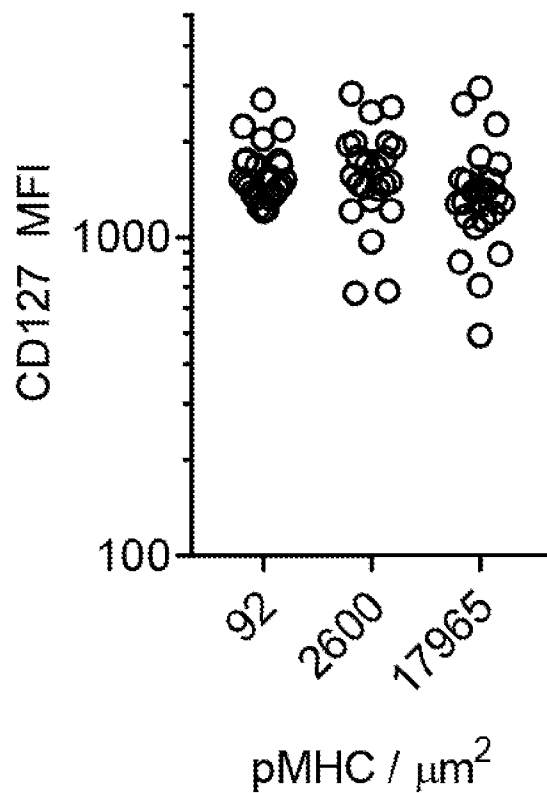
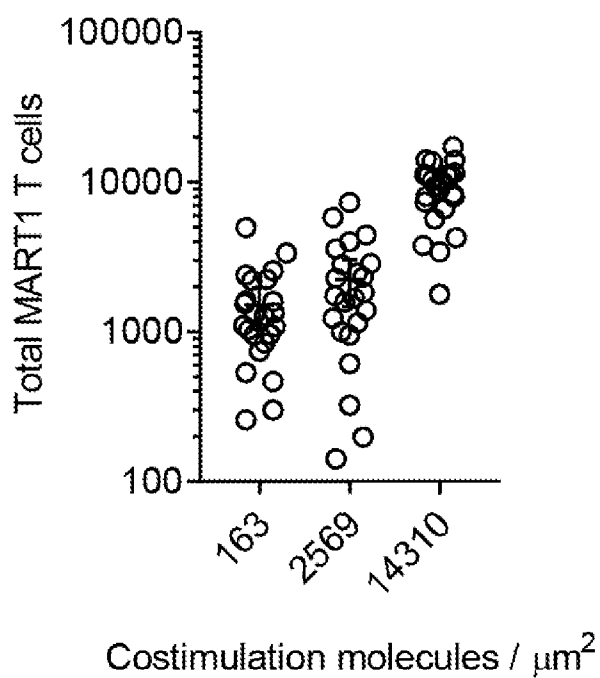
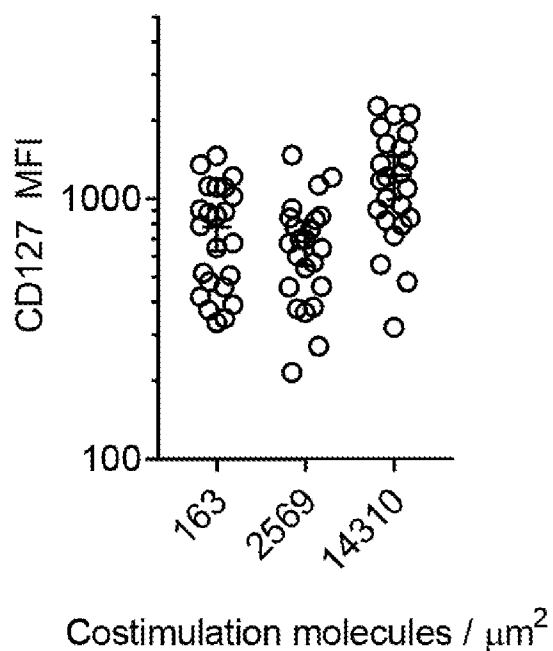
FIG. 20F

FIG. 20G

FIG. 20H

FIG. 20I

**FIG. 21A****FIG. 21B**

**FIG. 21C****FIG. 21D****FIG. 21E****FIG. 21F**

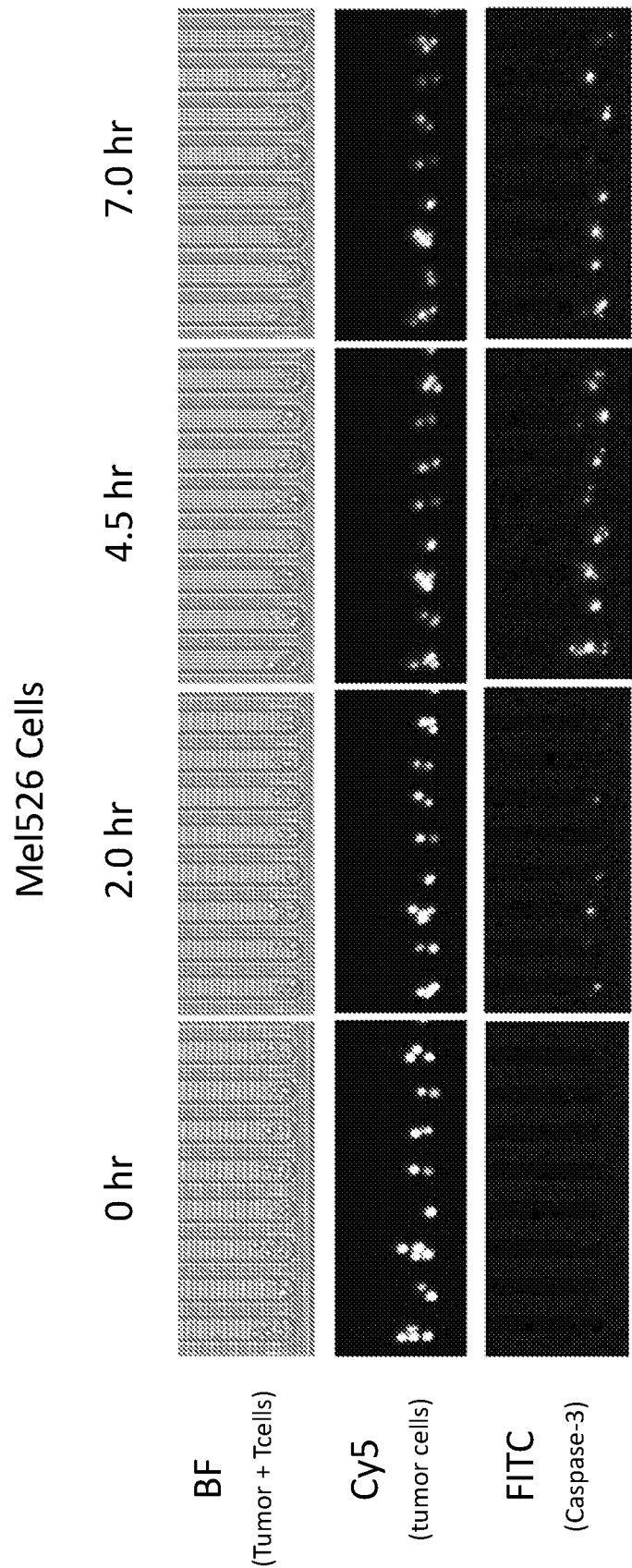
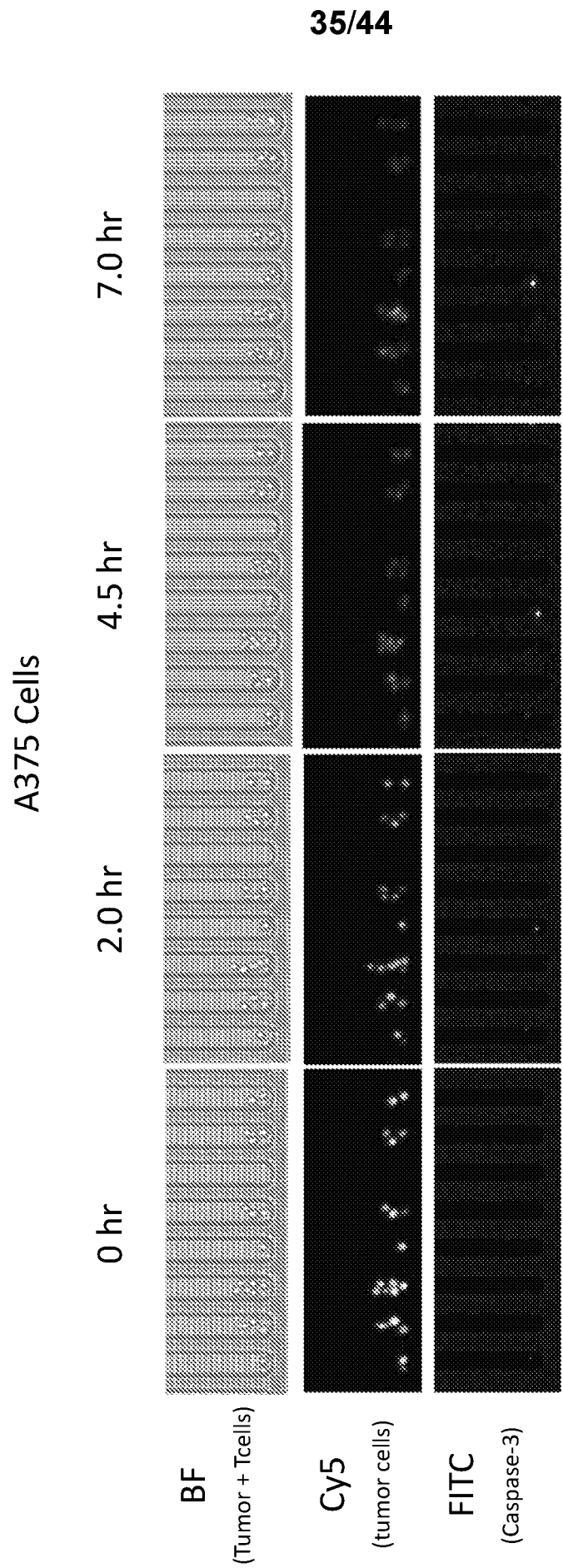
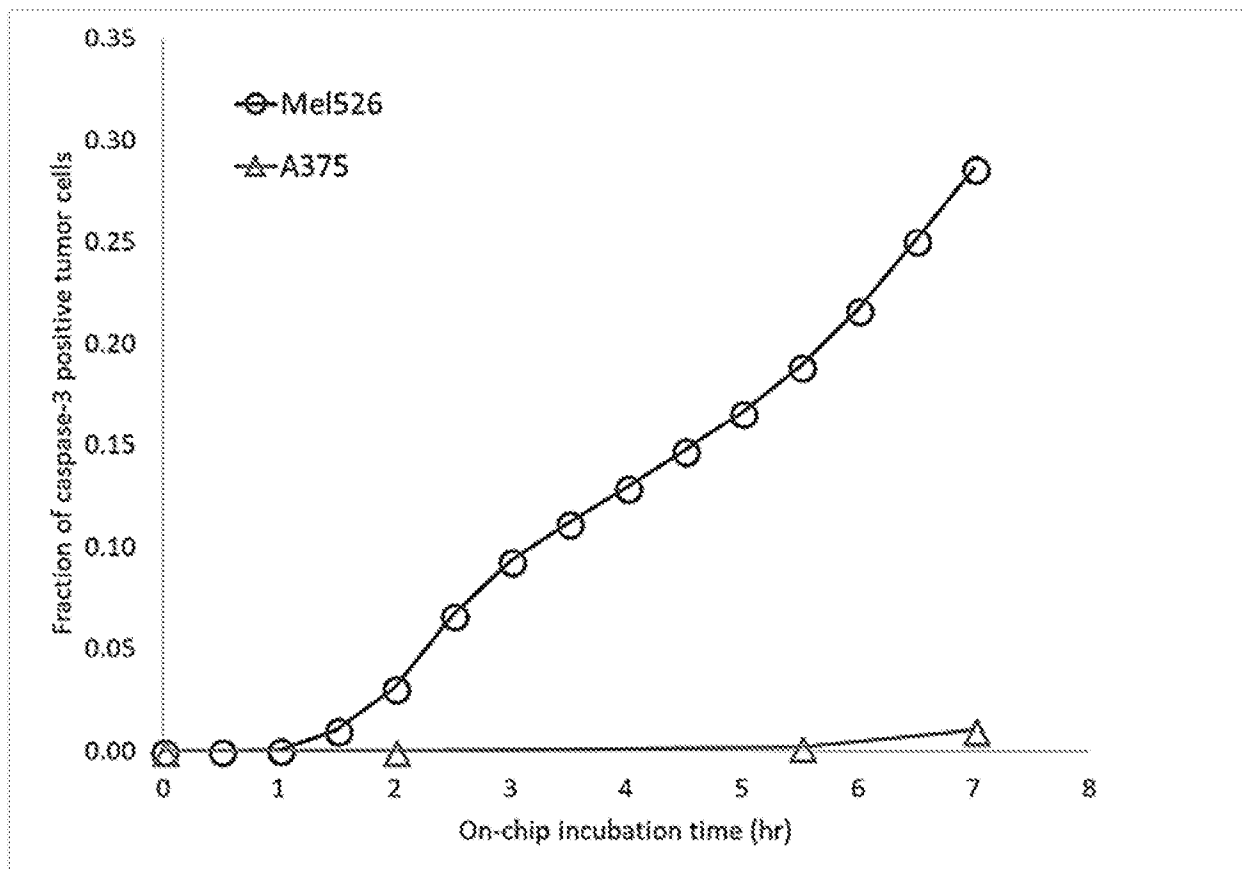
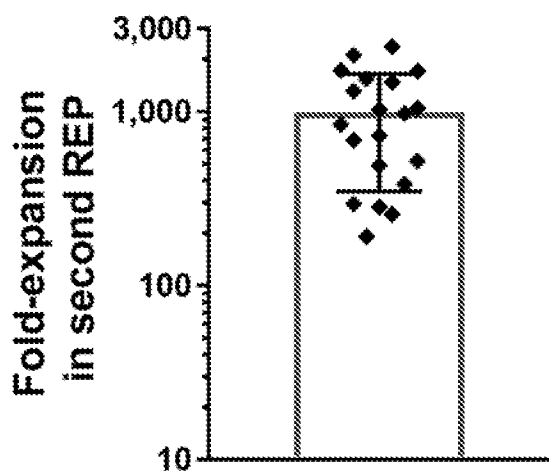
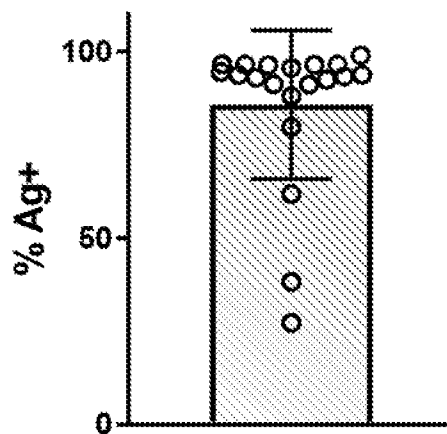


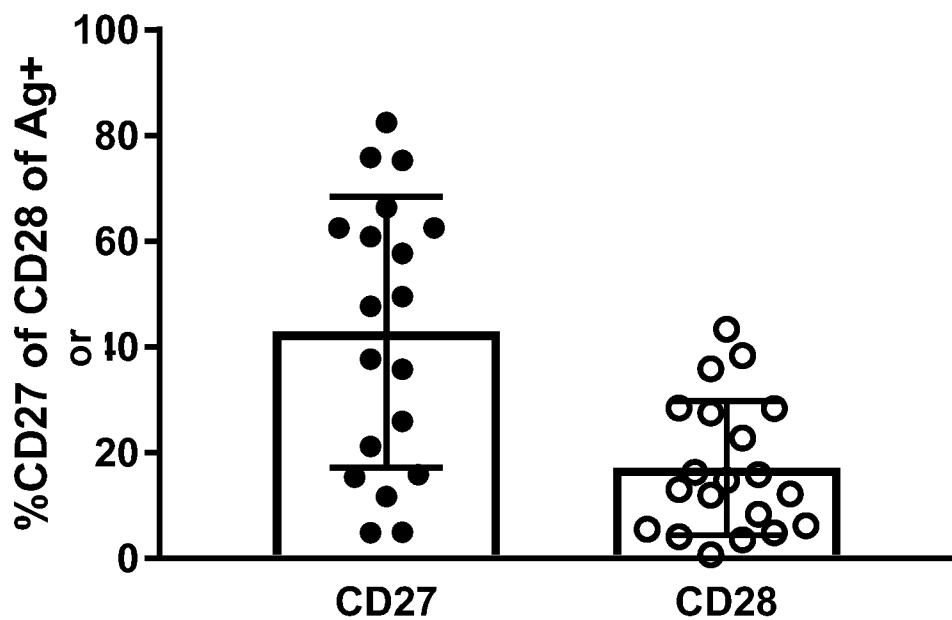
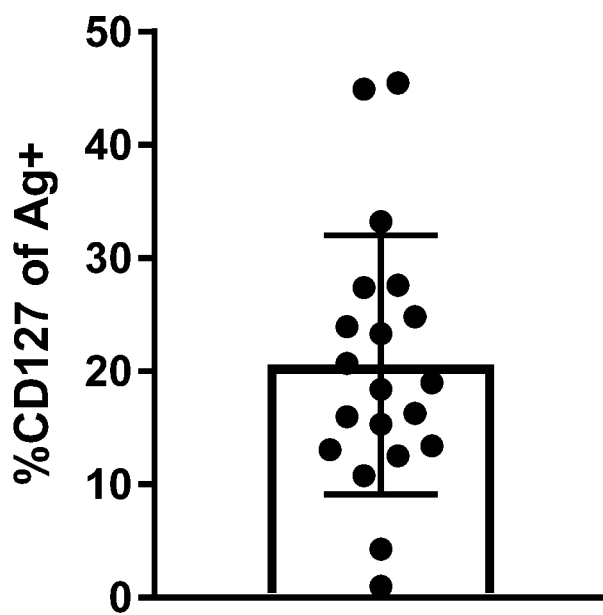
FIG. 22A

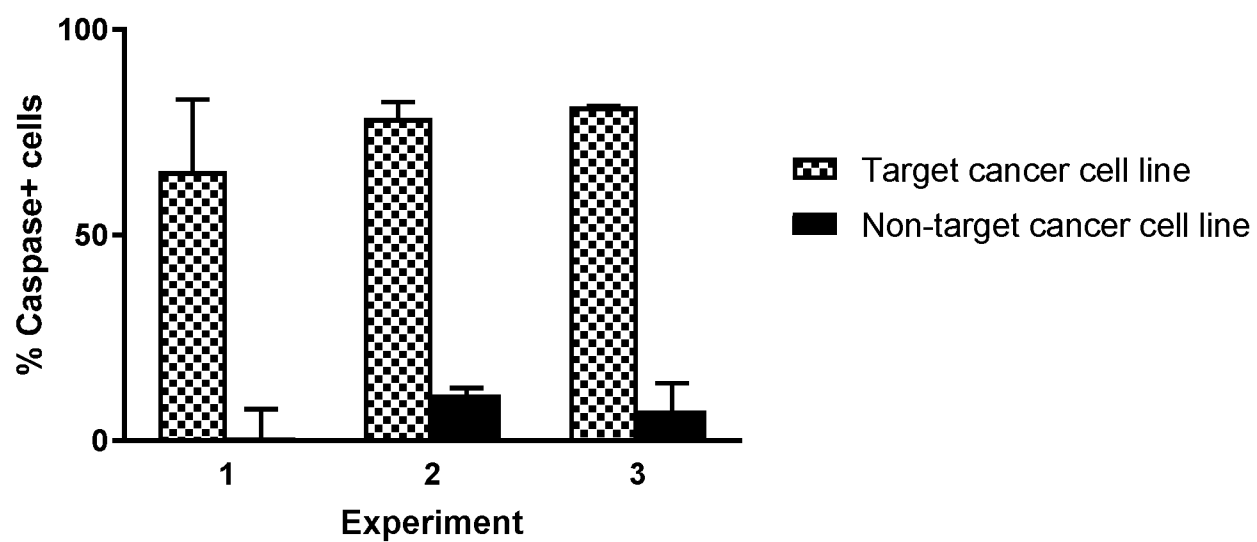


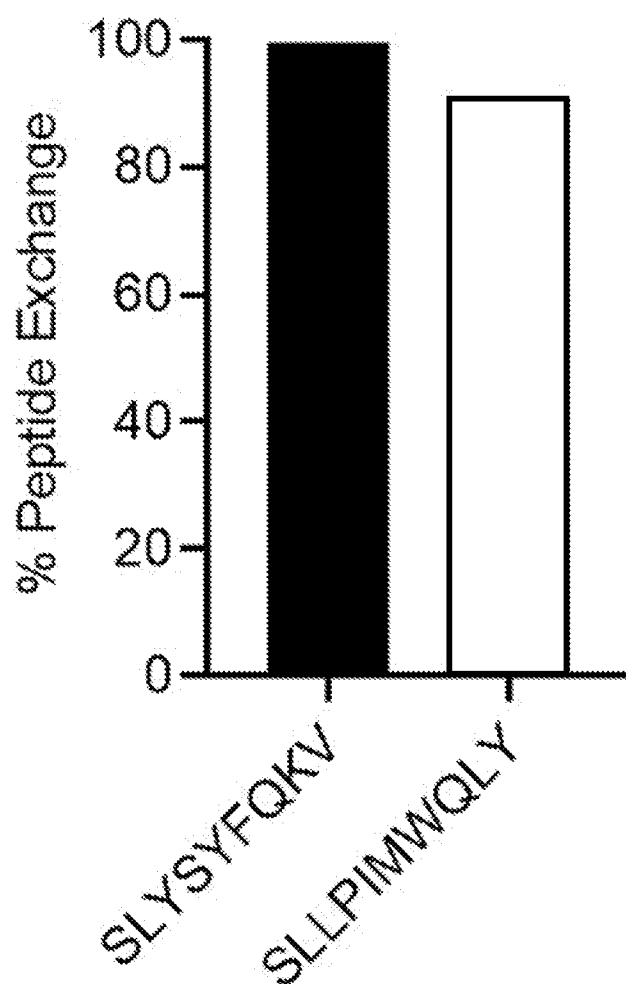
35/44

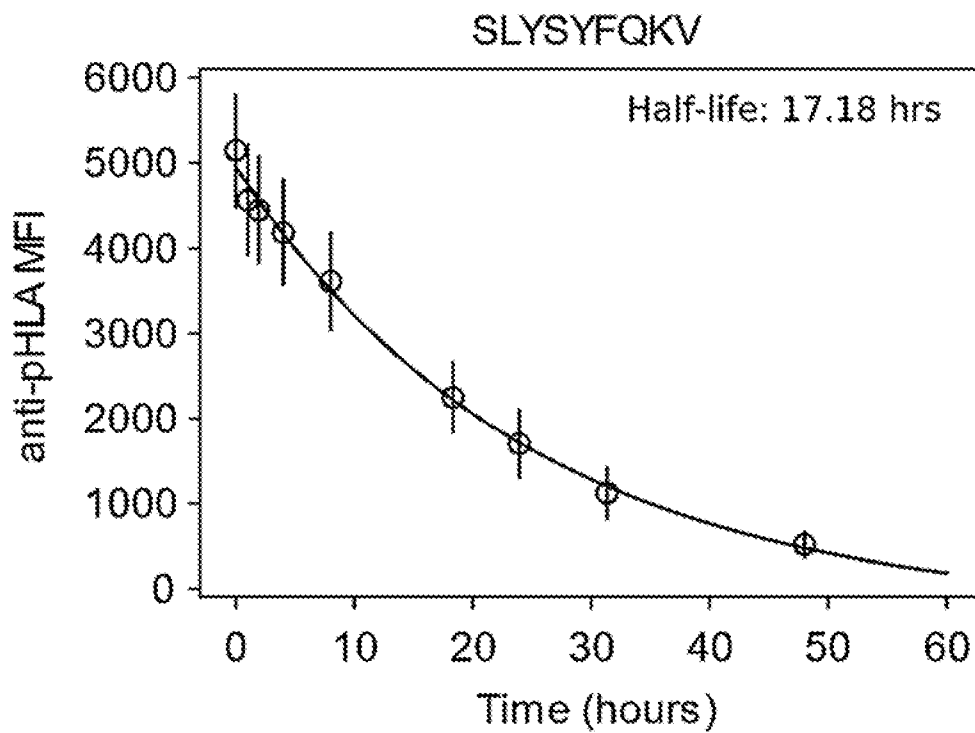
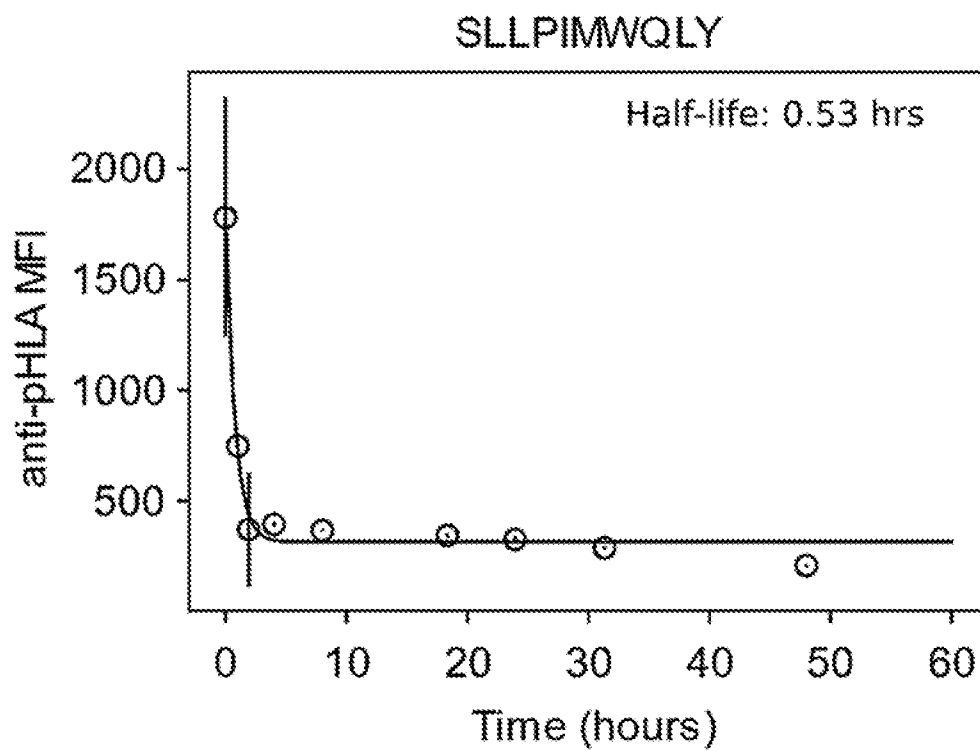
FIG. 22B

**FIG. 22C****FIG. 23A****FIG. 23B**

*FIG. 23C**FIG. 23D*

**FIG. 23E**

**FIG. 24**

**FIG. 25A****FIG. 25B**

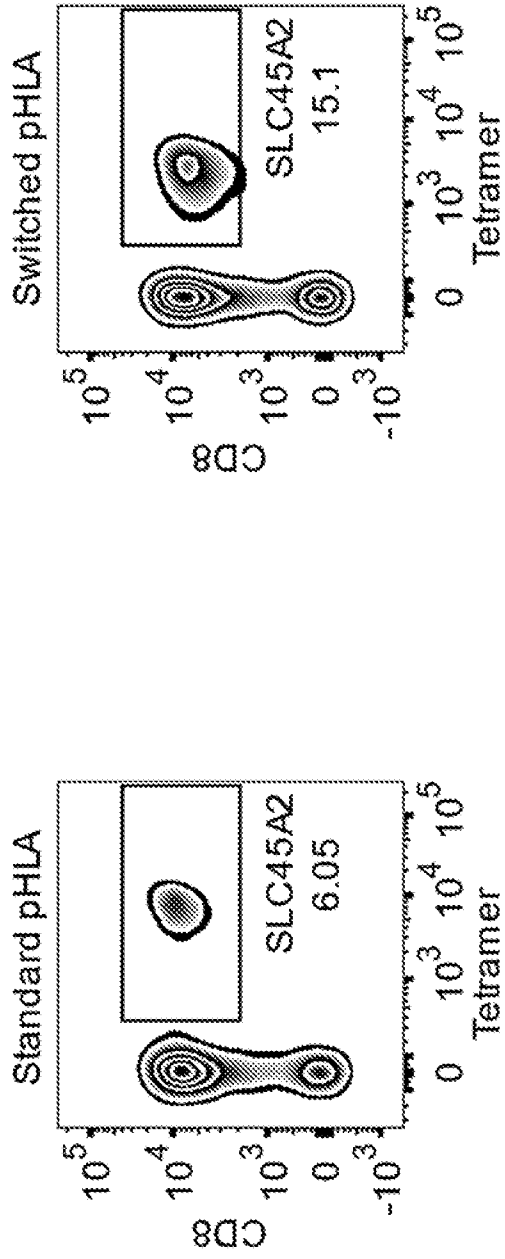


FIG. 26B

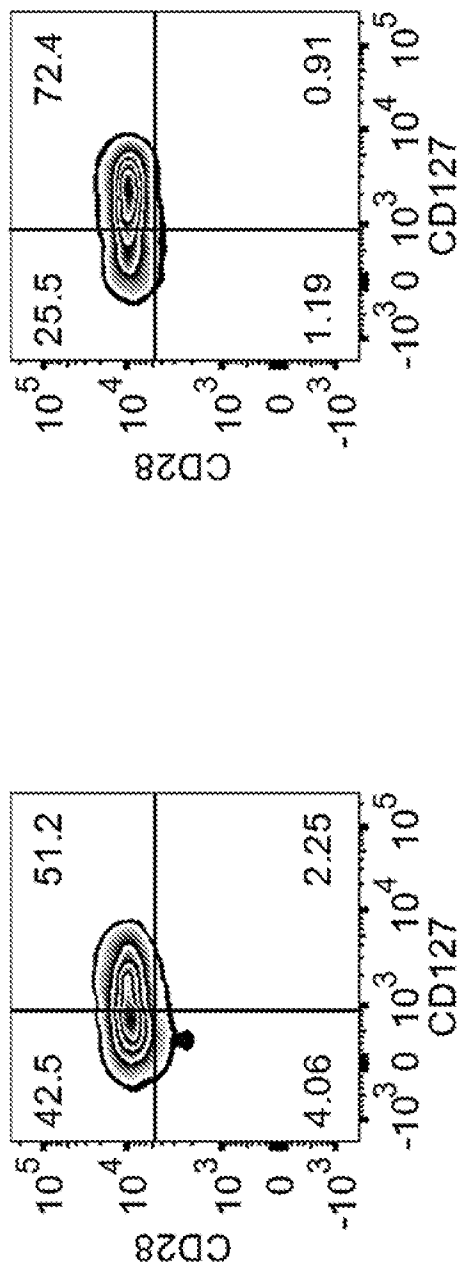
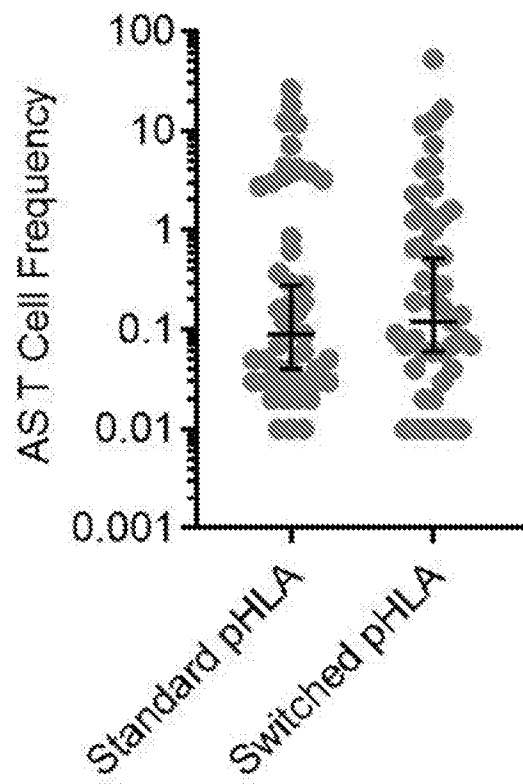
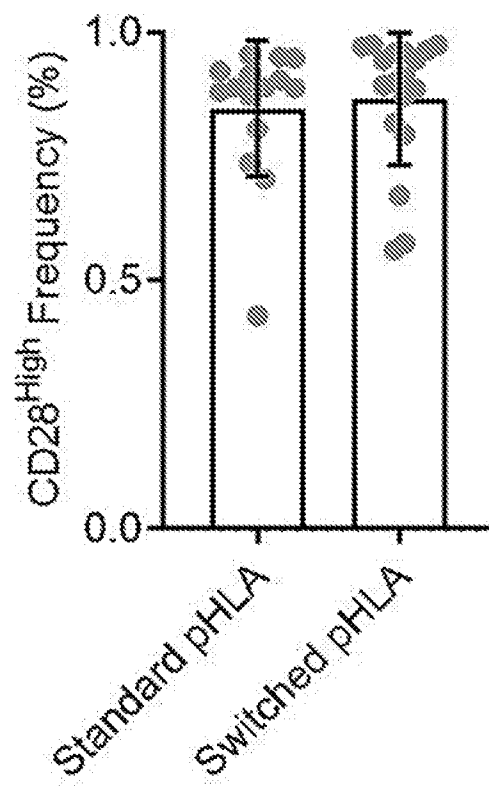


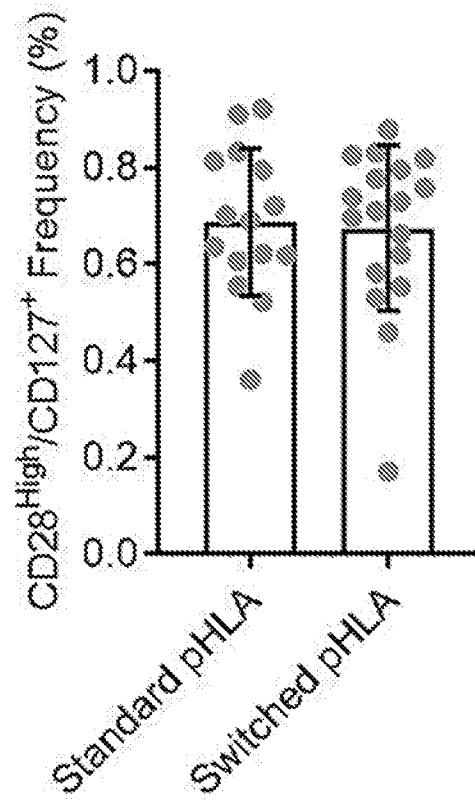
FIG. 26A

FIG. 26D

FIG. 26C

**FIG. 27A**

**FIG. 27B**

**FIG. 27C**