

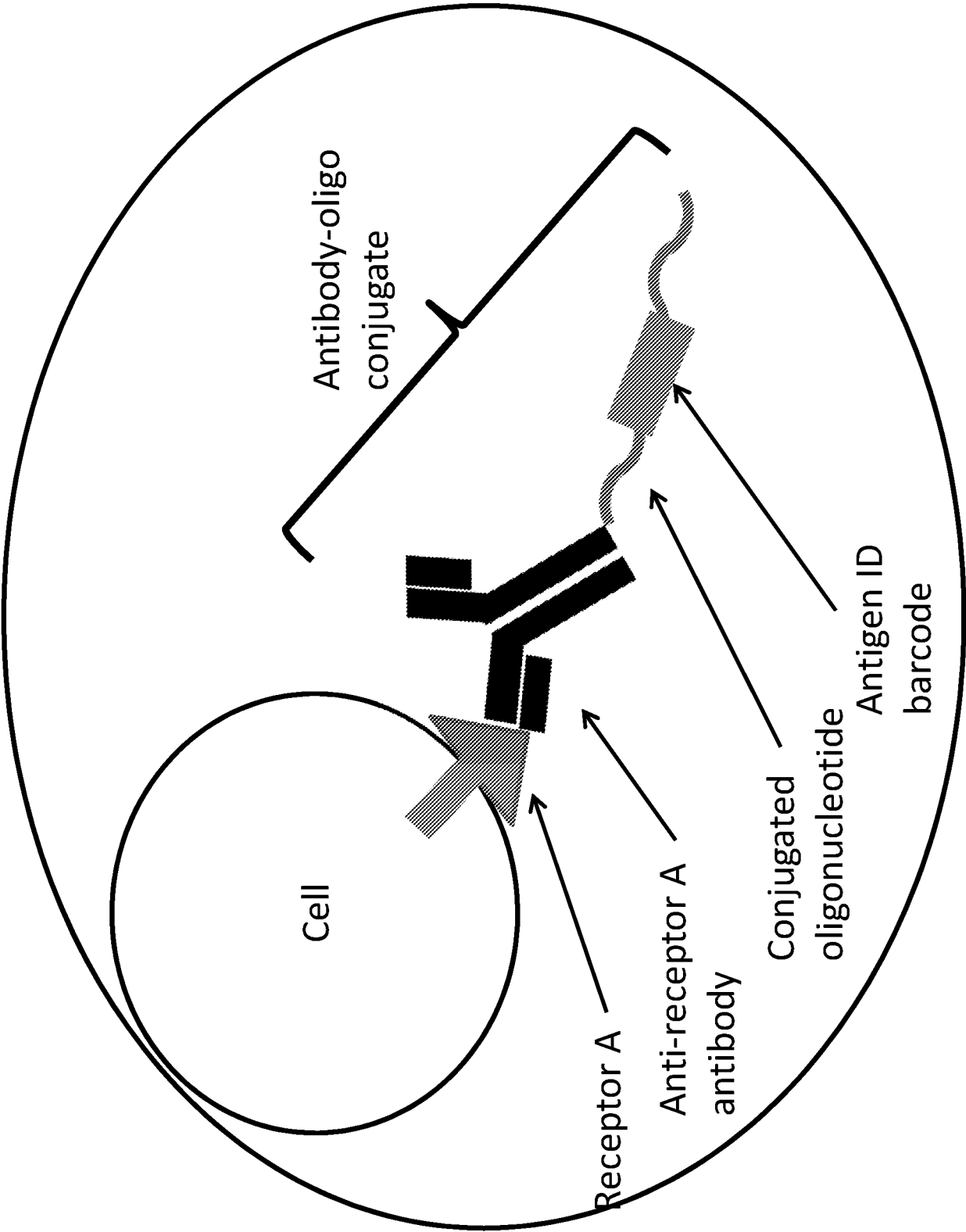


FIG. 1

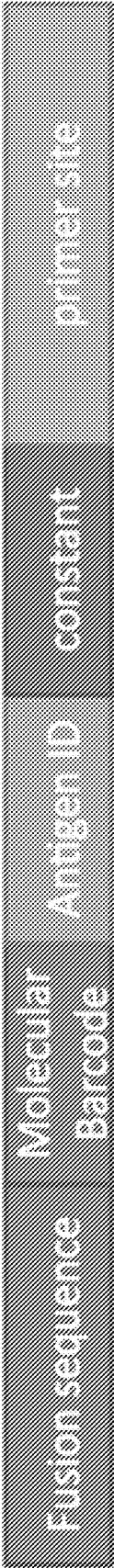


FIG. 2

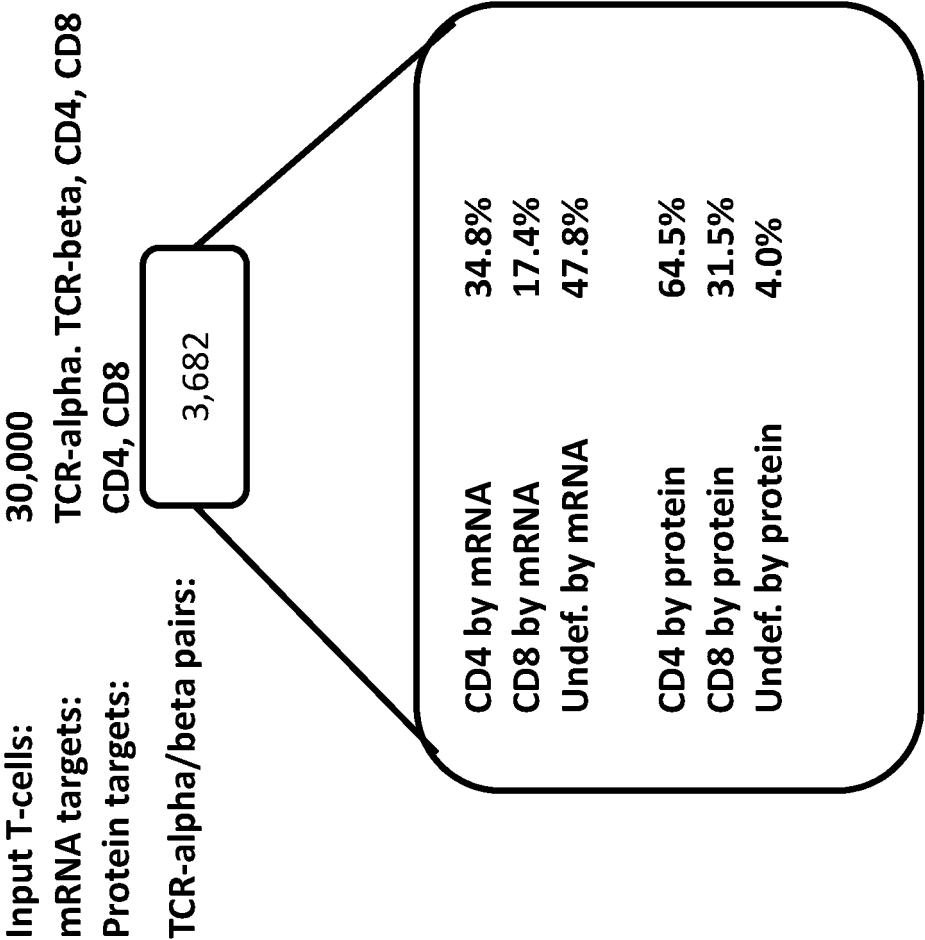


FIG. 3B

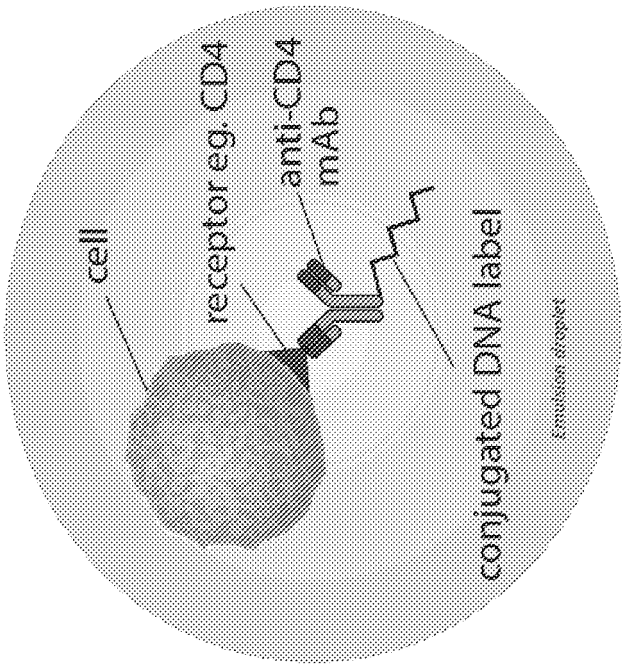


FIG.3A

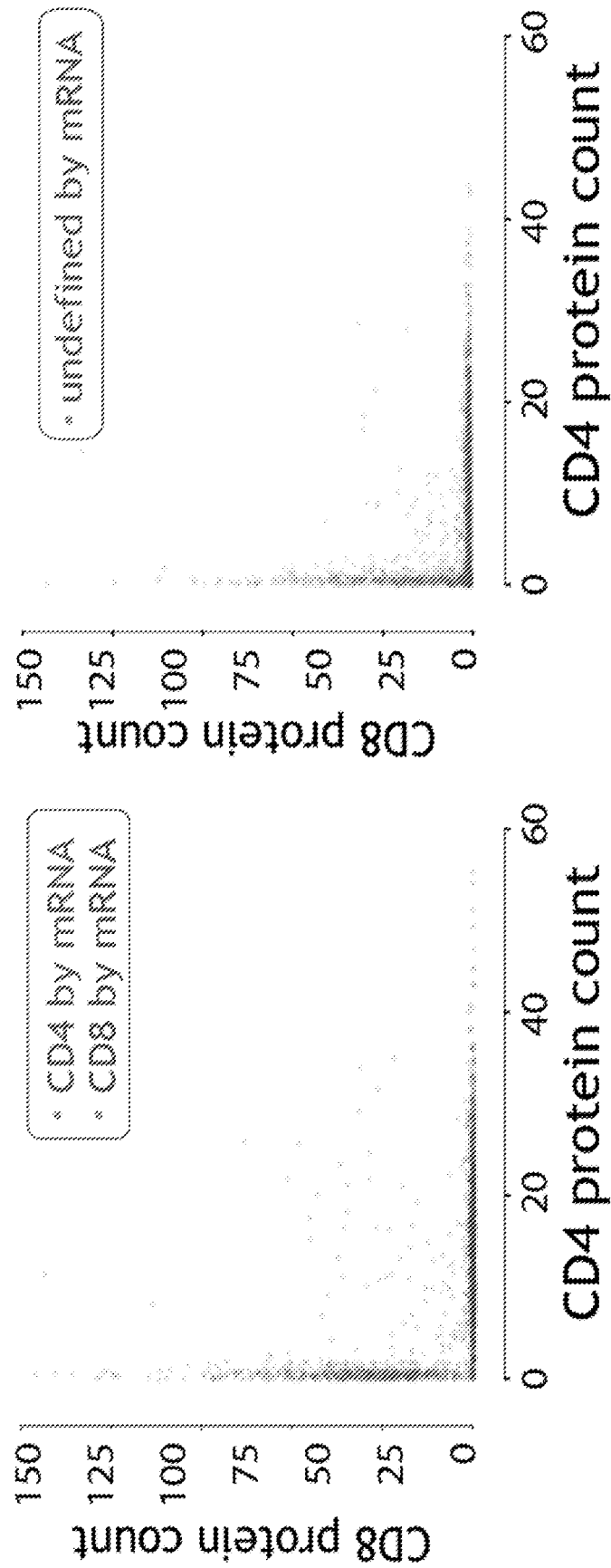


FIG. 3C

		protein			
		CD4	CD8	undef	
3,682 TCR V _α droplet barcodes	CD4	33.0%	1.4%	0.4%	34.8%
	CD8	0.7%	16.6%	0.1%	17.4%
	undef	30.7%	13.5%	3.6%	47.8%
	TOTAL	64.5%	31.5%	4.0%	100.0%

mRNA

FIG. 3D

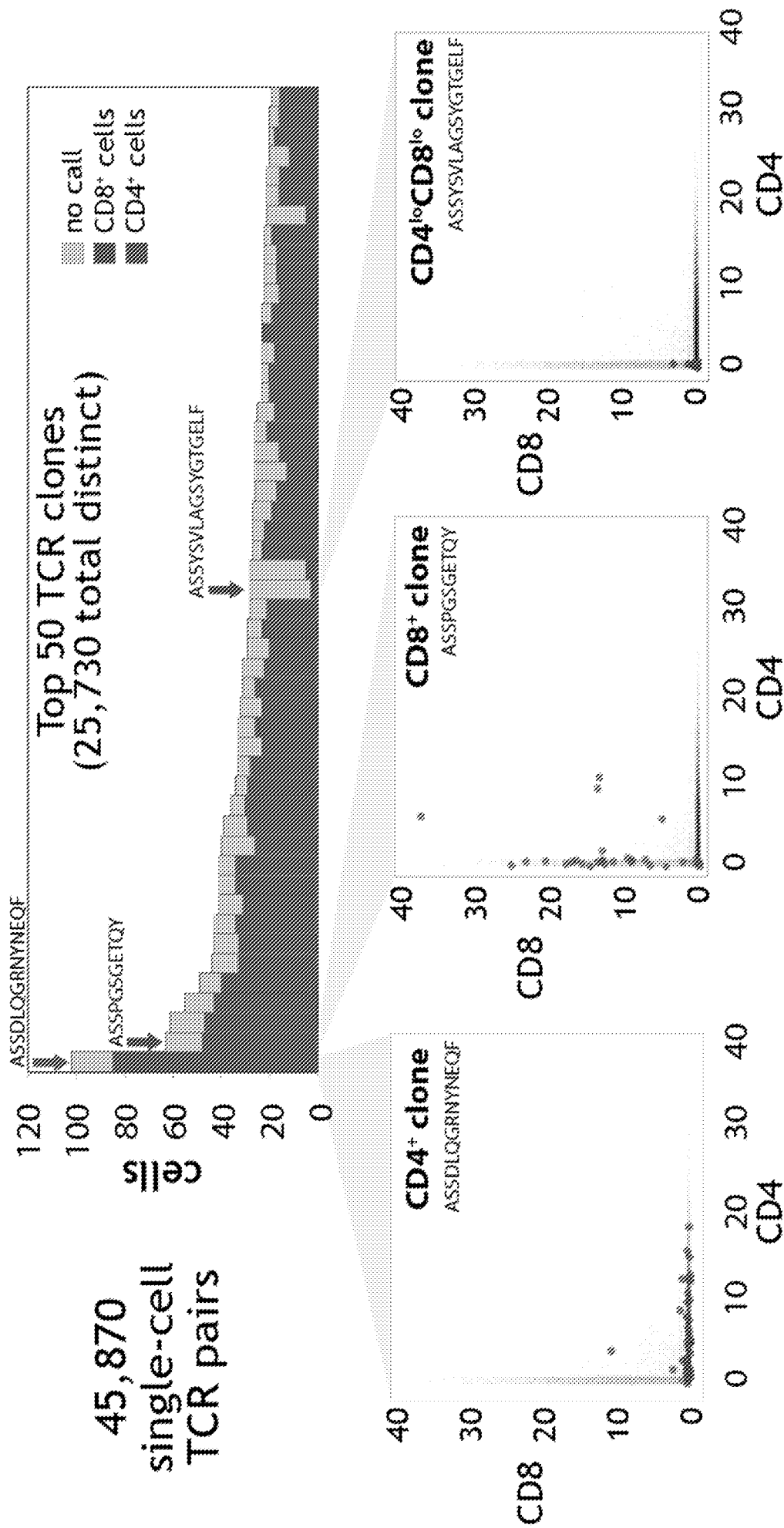


FIG. 3E

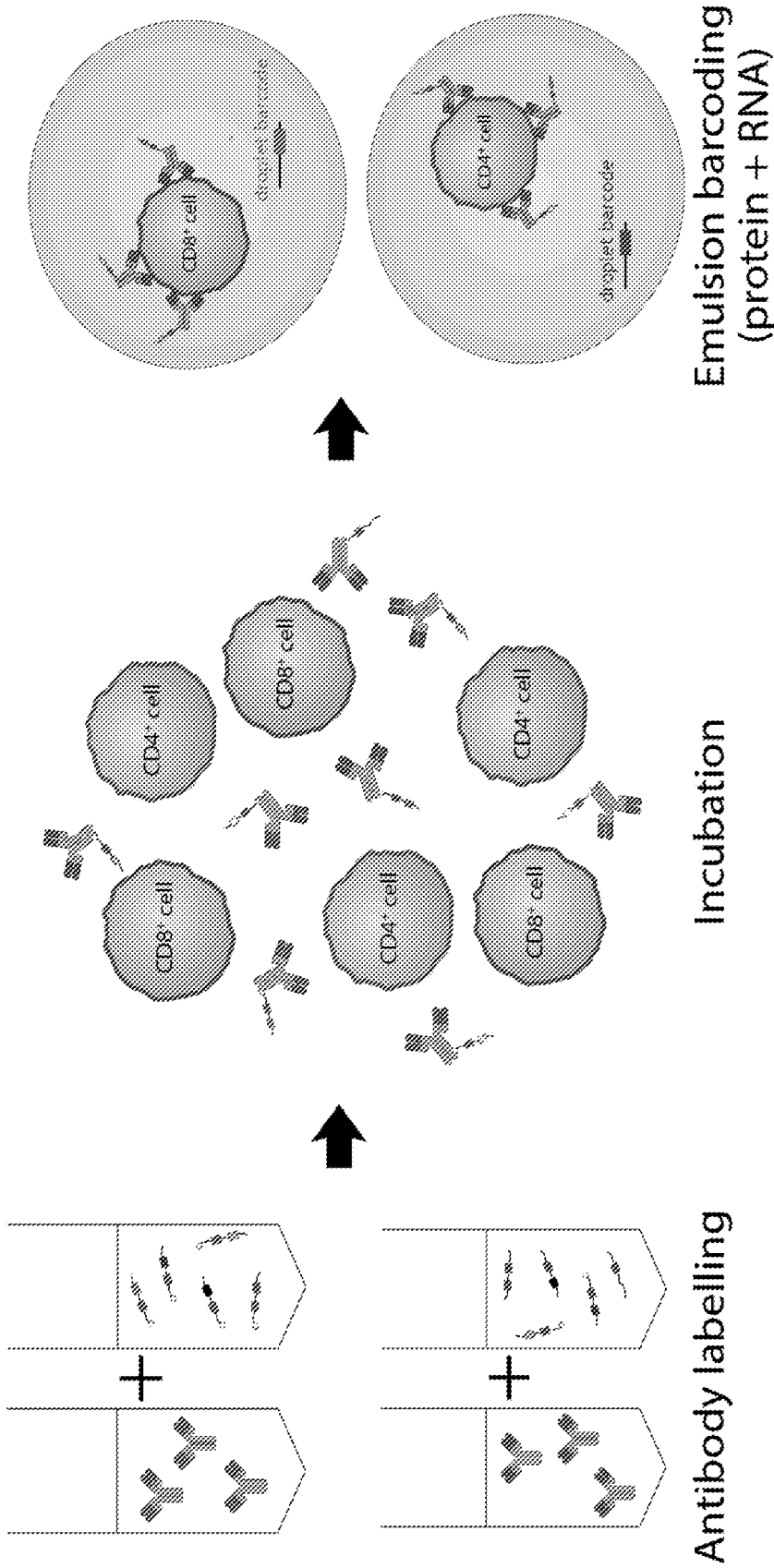


FIG. 4

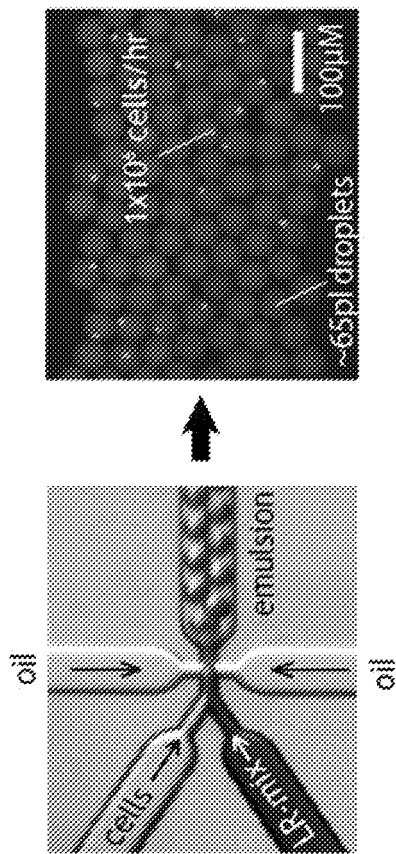


FIG. 5A

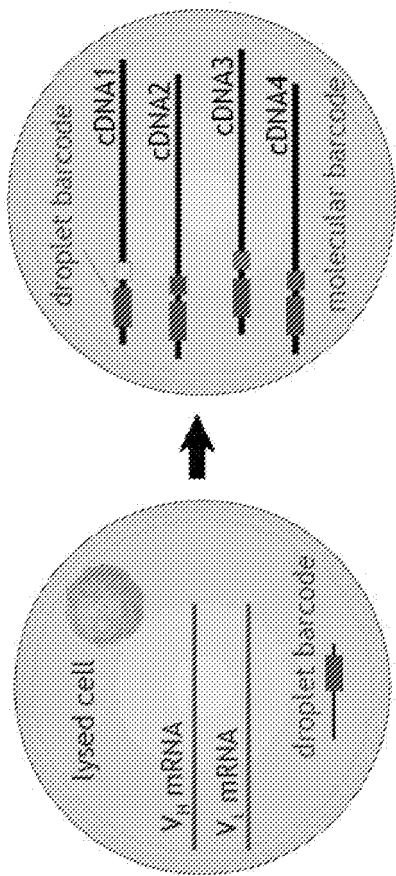


FIG. 5B

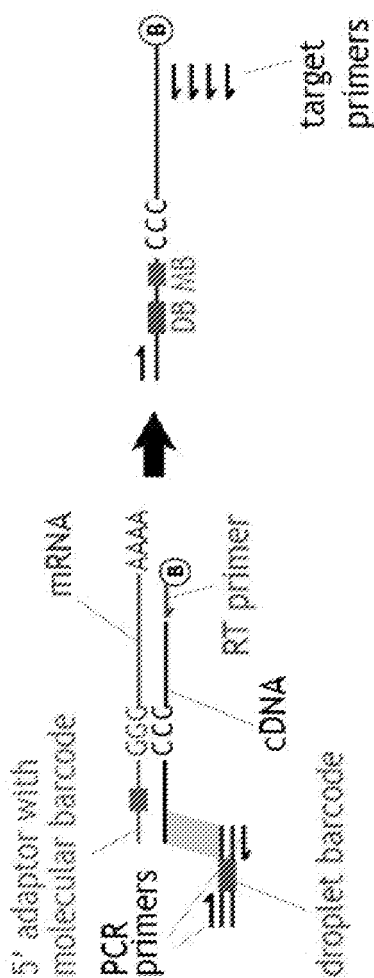


FIG. 5C

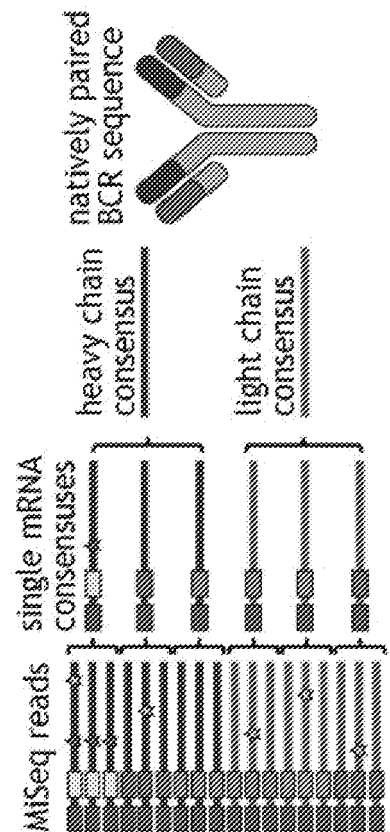
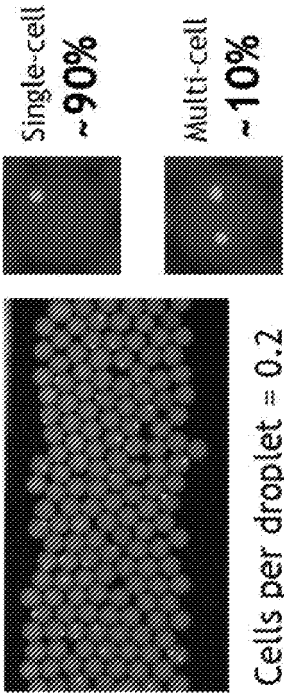


FIG. 5D



Cells per droplet = 0.2

FIG. 6A

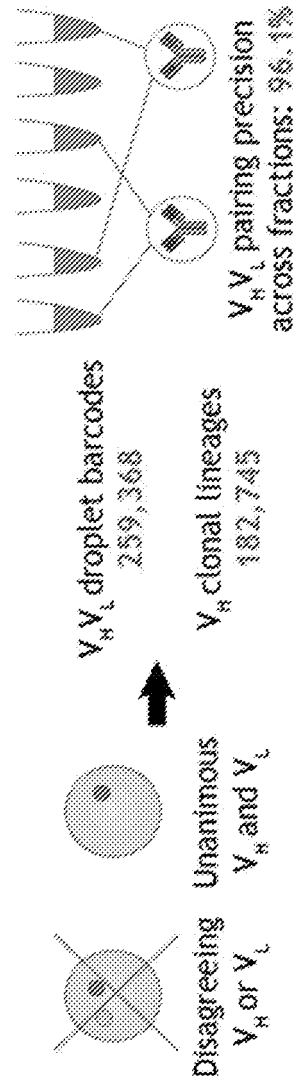


FIG. 6B

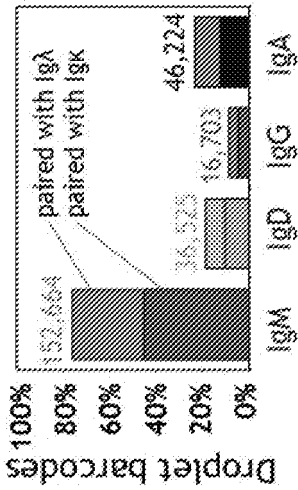


FIG. 6C

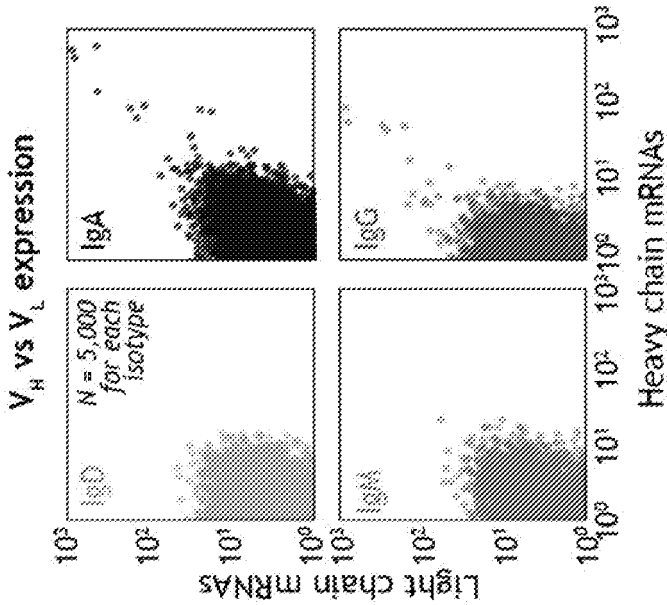


FIG. 6E

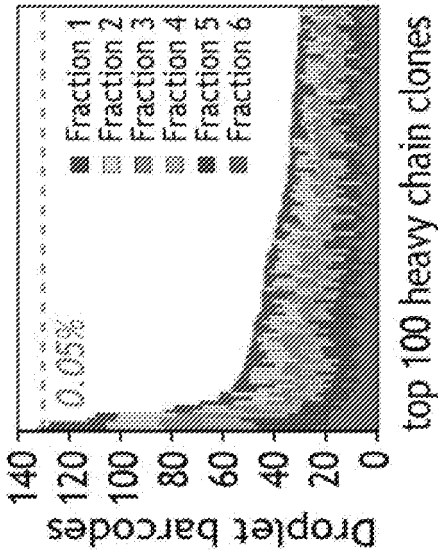


FIG. 6D

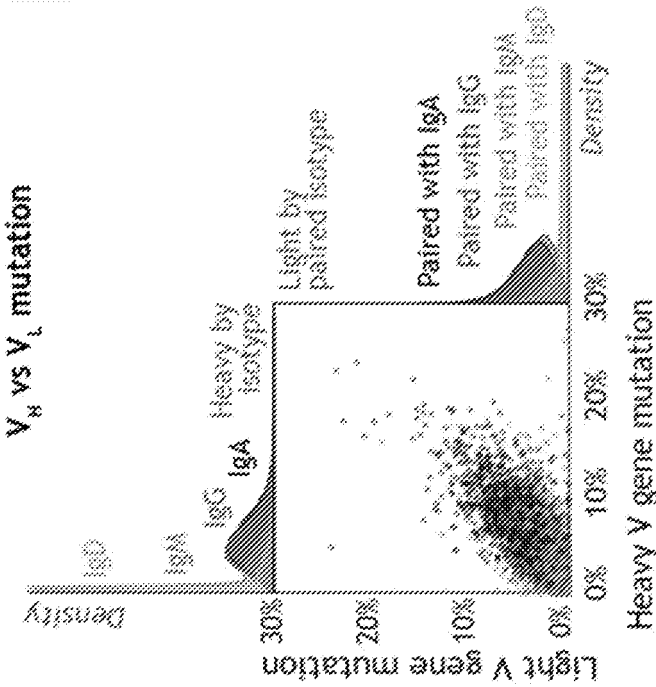


FIG. 6F

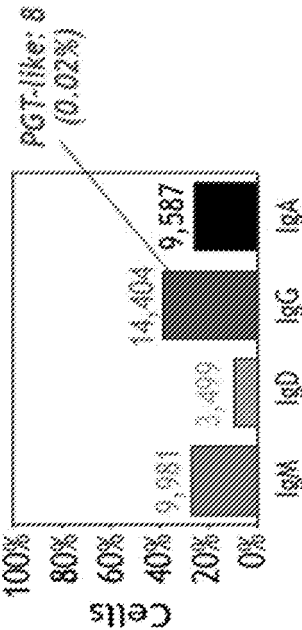


FIG. 7A

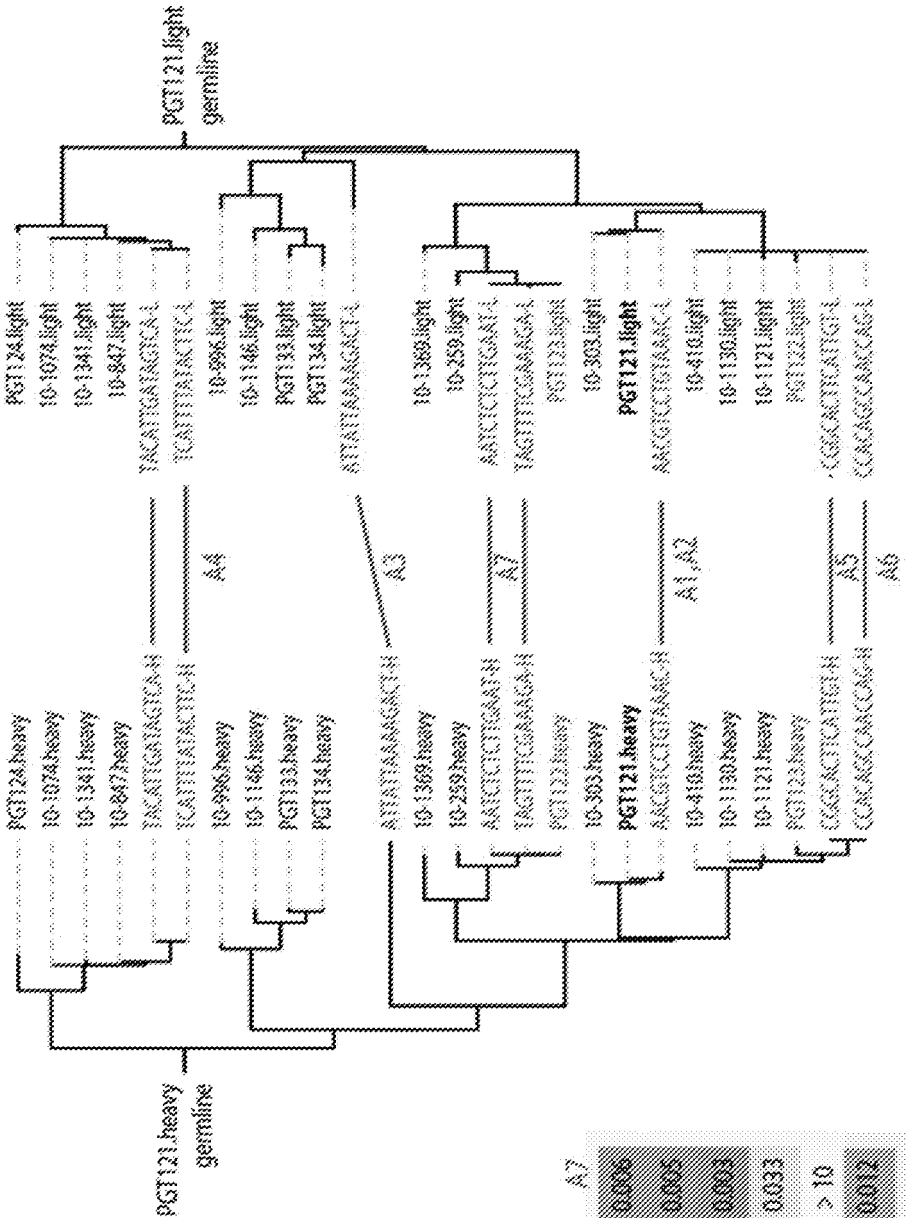
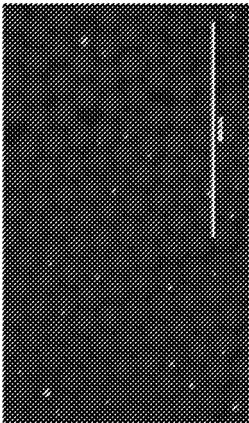


FIG. 7B

HIV strain	Antibody	PGT121									
		A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
WT	BG505	0.037	0.019	0.020	0.051	> 10	0.051	0.006			
	92BR020	0.003	0.023	0.020	0.047	0.064	> 10	0.015	0.005		
	IA VIC22	0.001	0.005	0.009	0.015	0.053	0.433	0.014	0.003		
	94UG103	0.400	0.363	0.255	0.561	> 10	> 10	> 10	0.033		
	92TH021	> 10	> 10	> 10	> 10	> 10	> 10	> 10	> 10		
	BG505	0.052	0.015	0.018	> 10	> 10	> 10	0.019	0.012		
	92BR020	0.014	0.009	0.018	> 10	> 10	> 10	> 10	> 10		
	IA VIC22	0.299	> 10	> 10	> 10	> 10	> 10	> 10	> 10		
	94UG103	> 10	> 10	> 10	> 10	> 10	> 10	> 10	> 10		
	92TH021	> 10	> 10	> 10	> 10	> 10	> 10	> 10	> 10		
N332A											

FIG. 7C



400,000 cells
from ovarian tumor

FIG. 8A

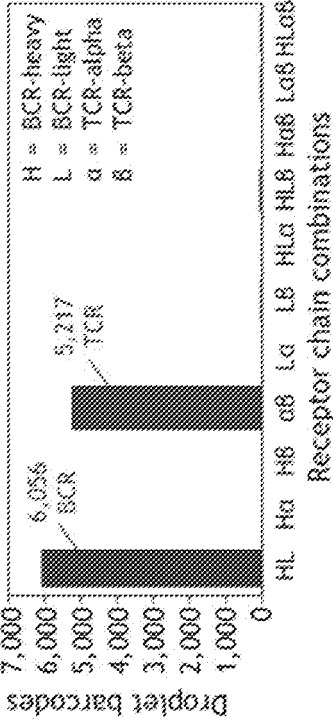


FIG. 8B

FIG. 8C

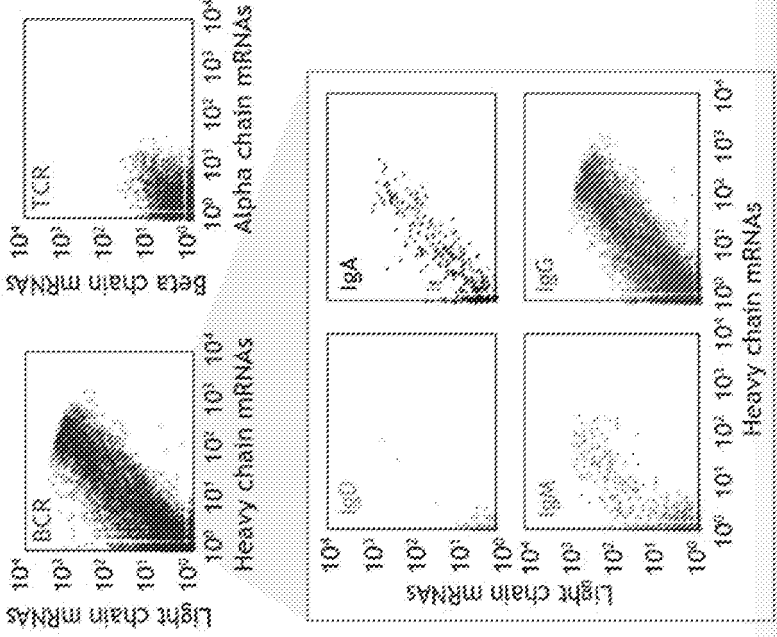
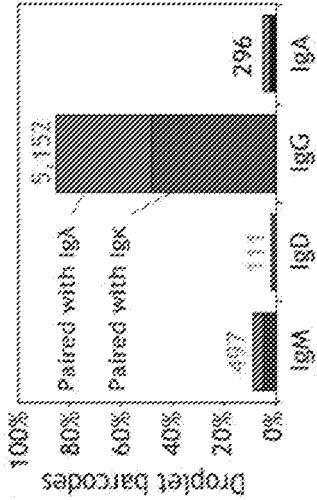


FIG. 8E

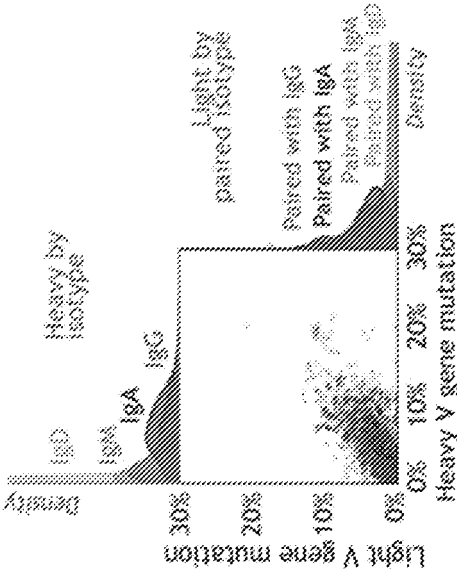


FIG. 8D

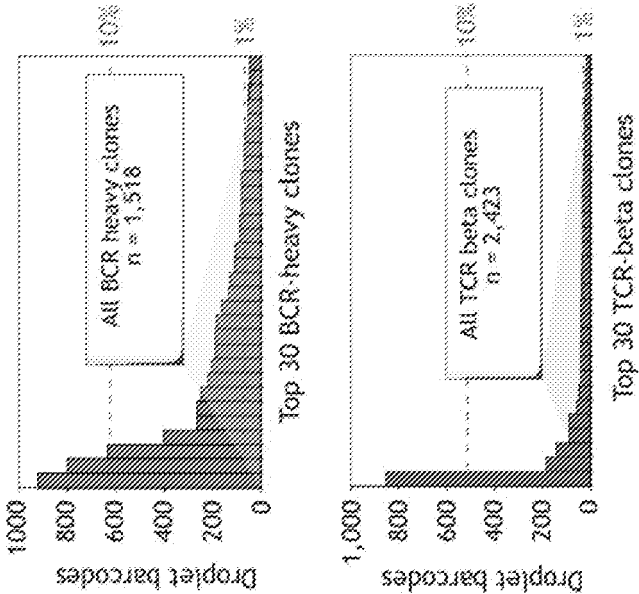


FIG. 8F

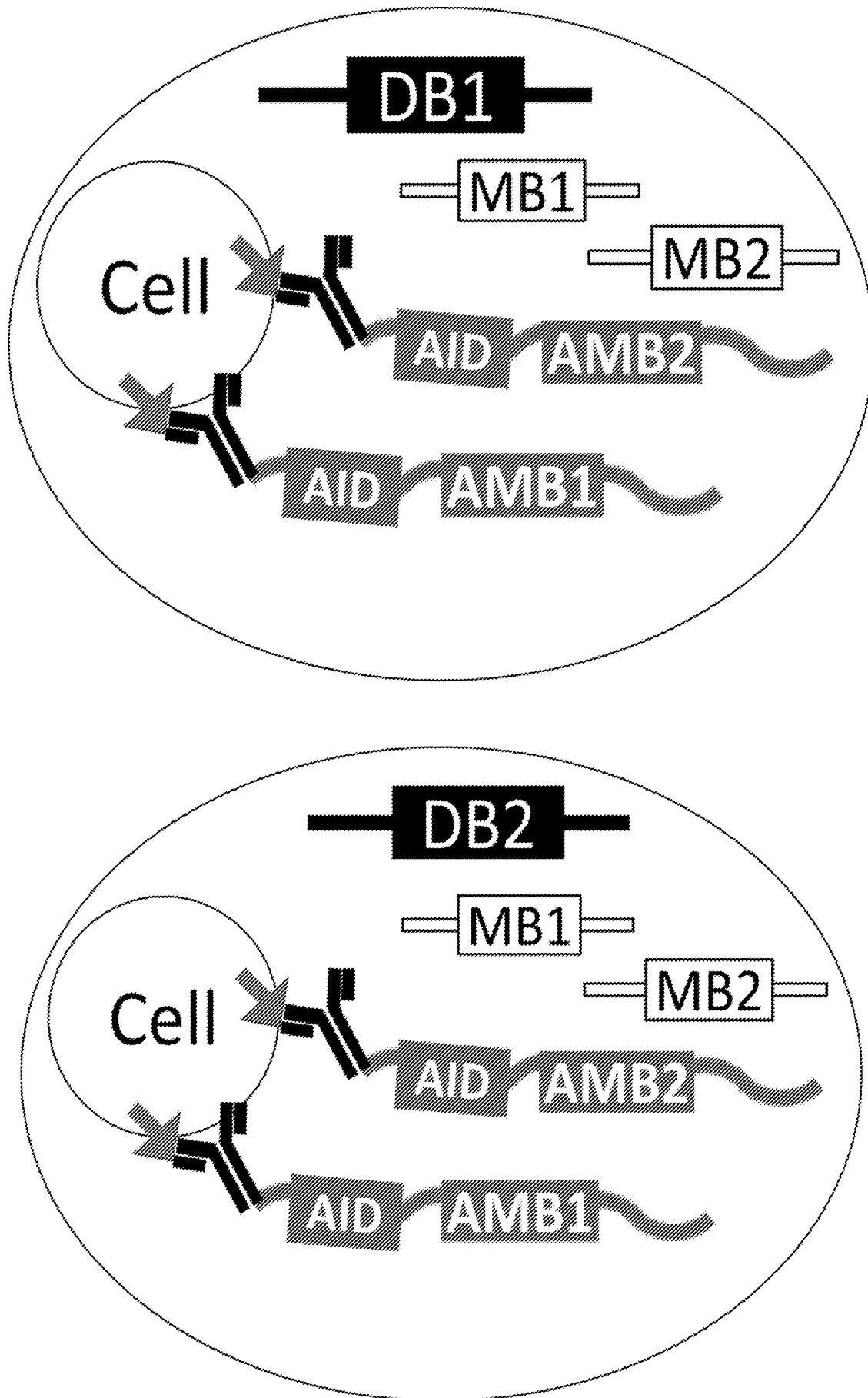


FIG. 9A

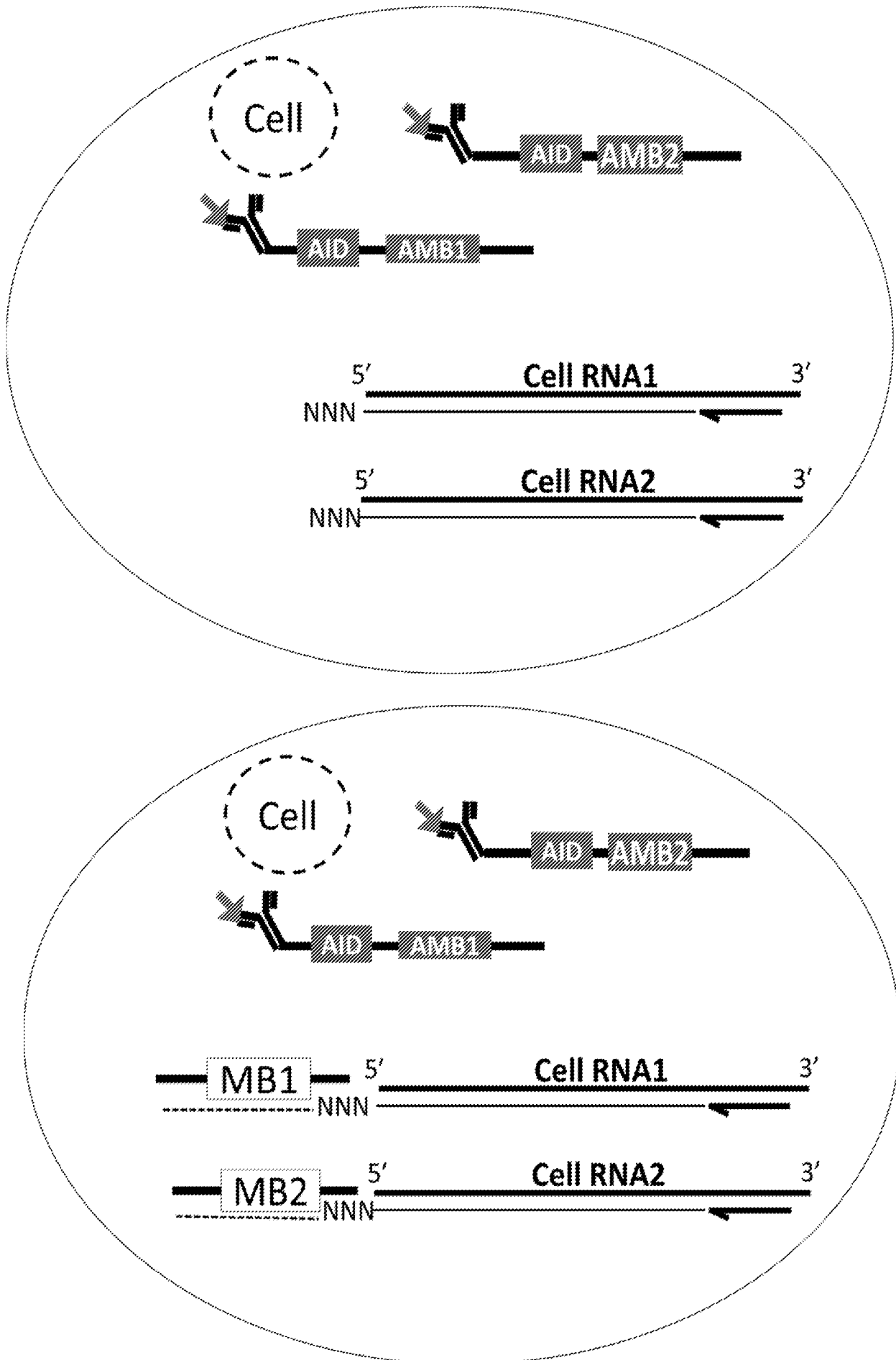


FIG. 9B

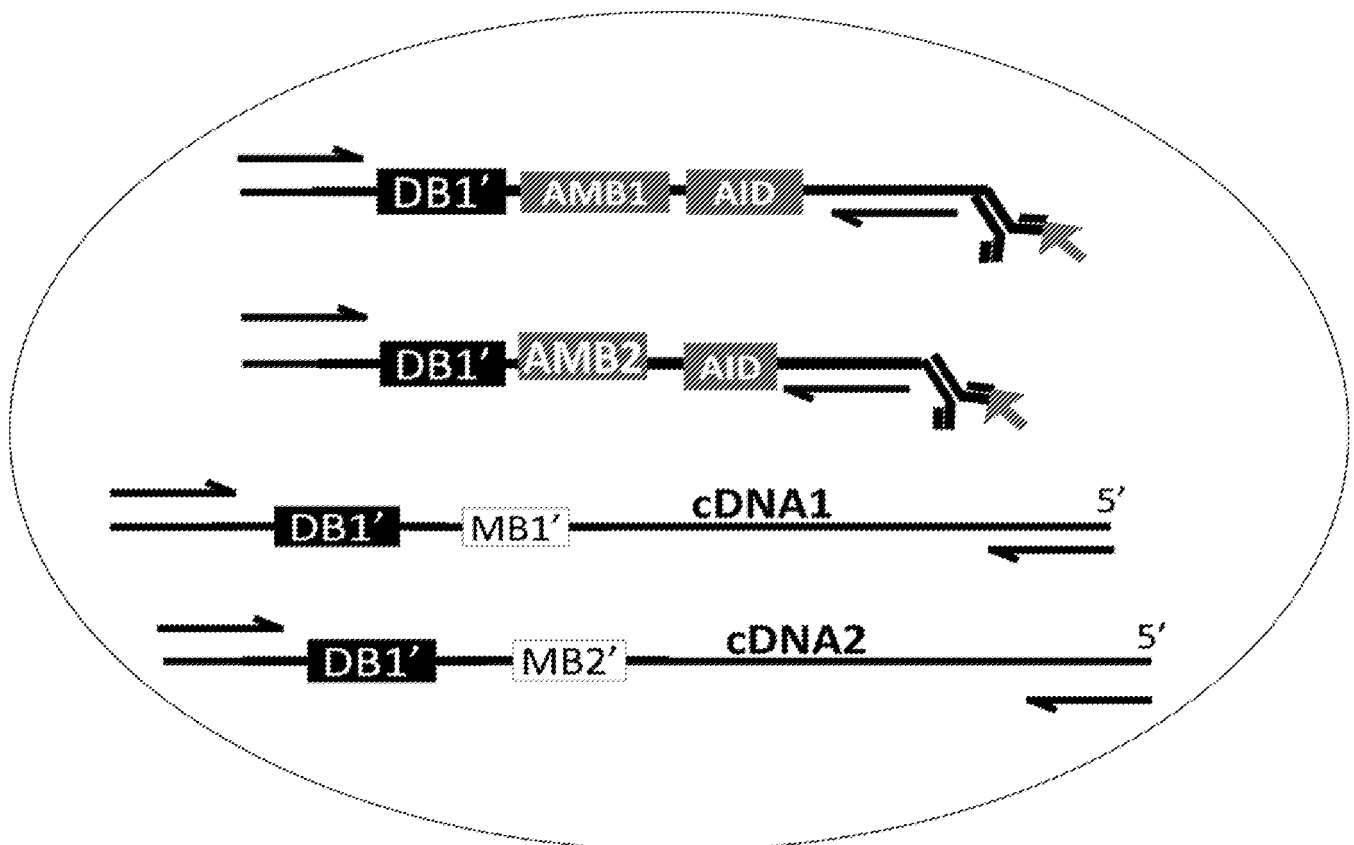
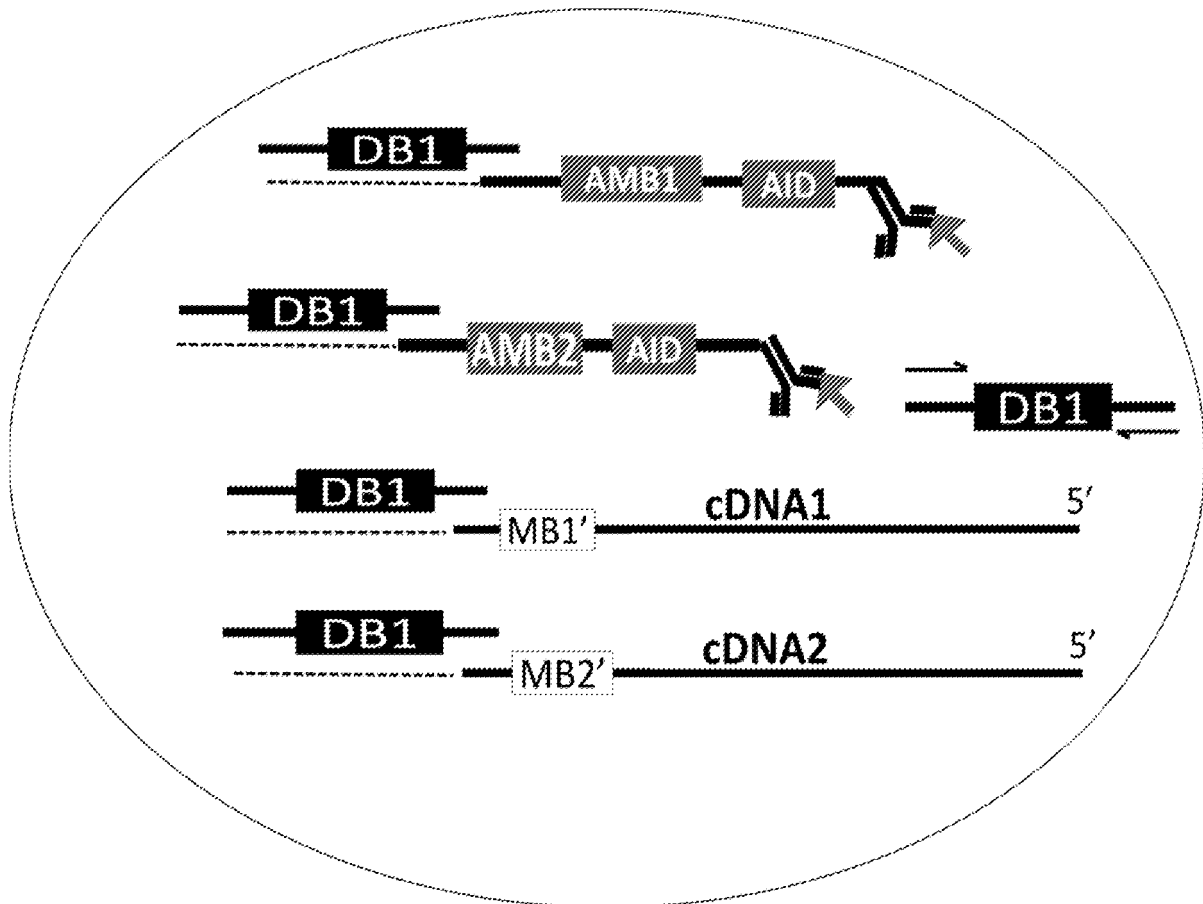


FIG. 9C

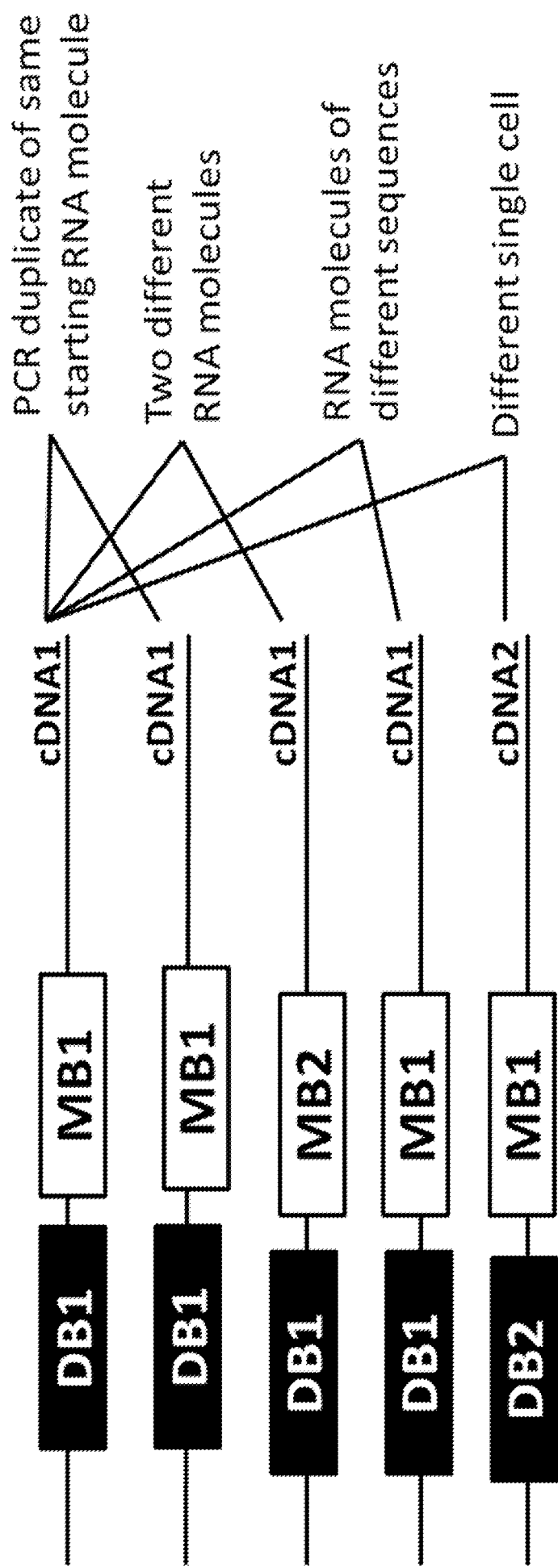


FIG. 9D

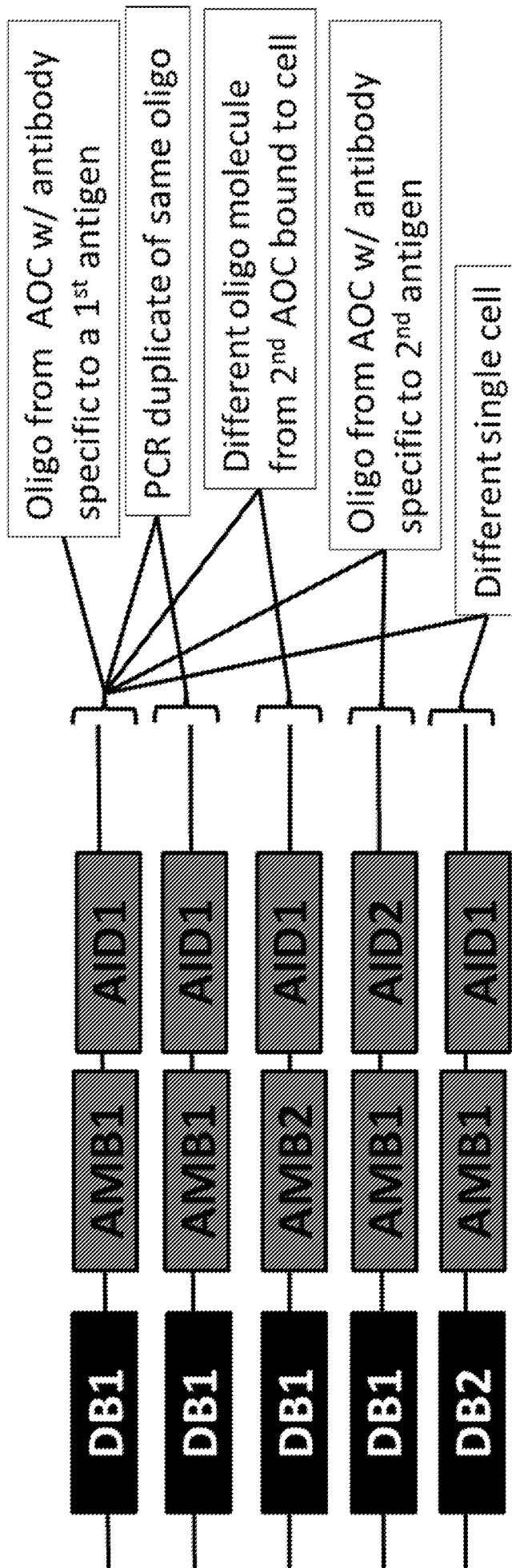


FIG. 9E

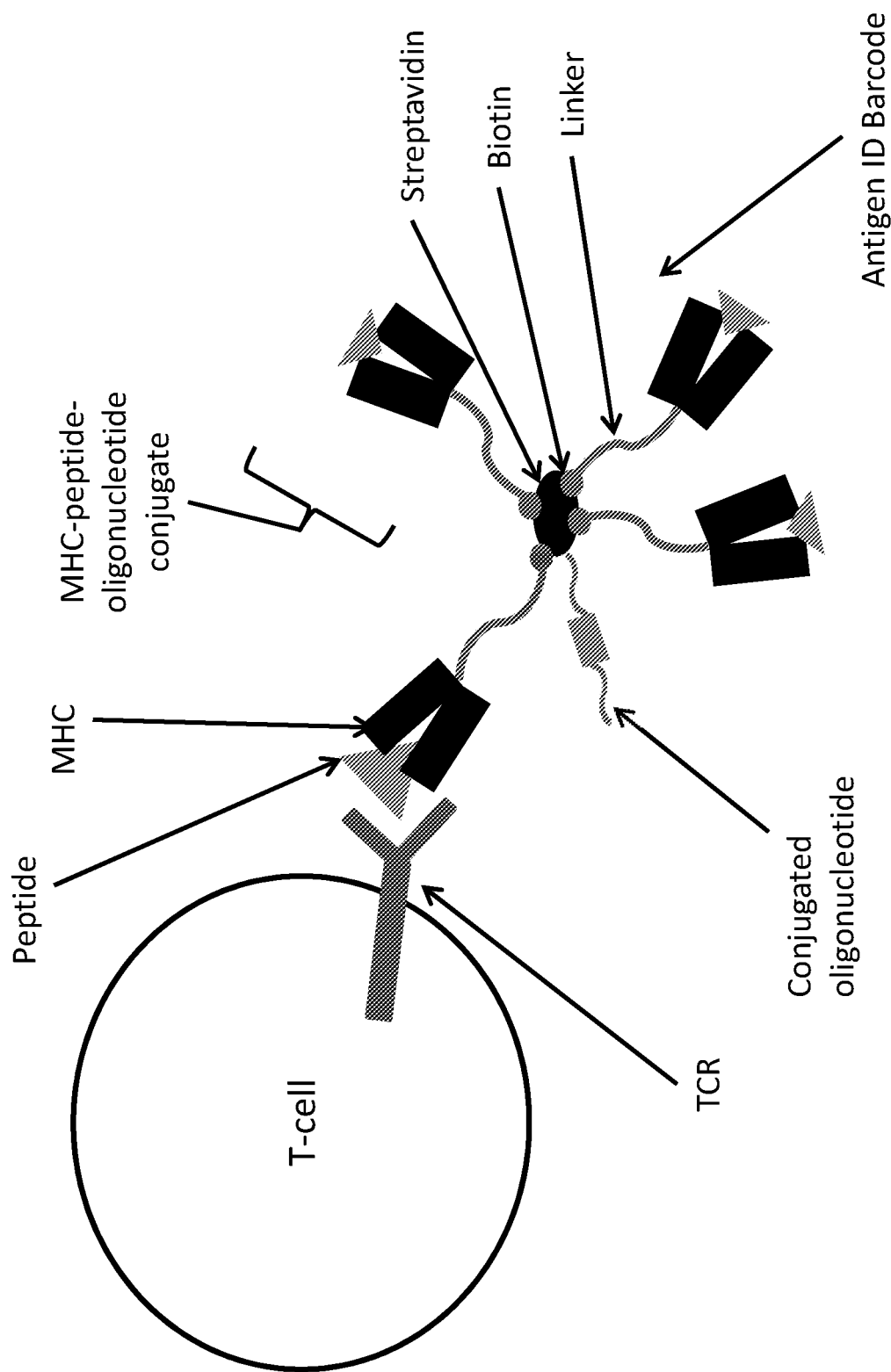


FIG. 10A

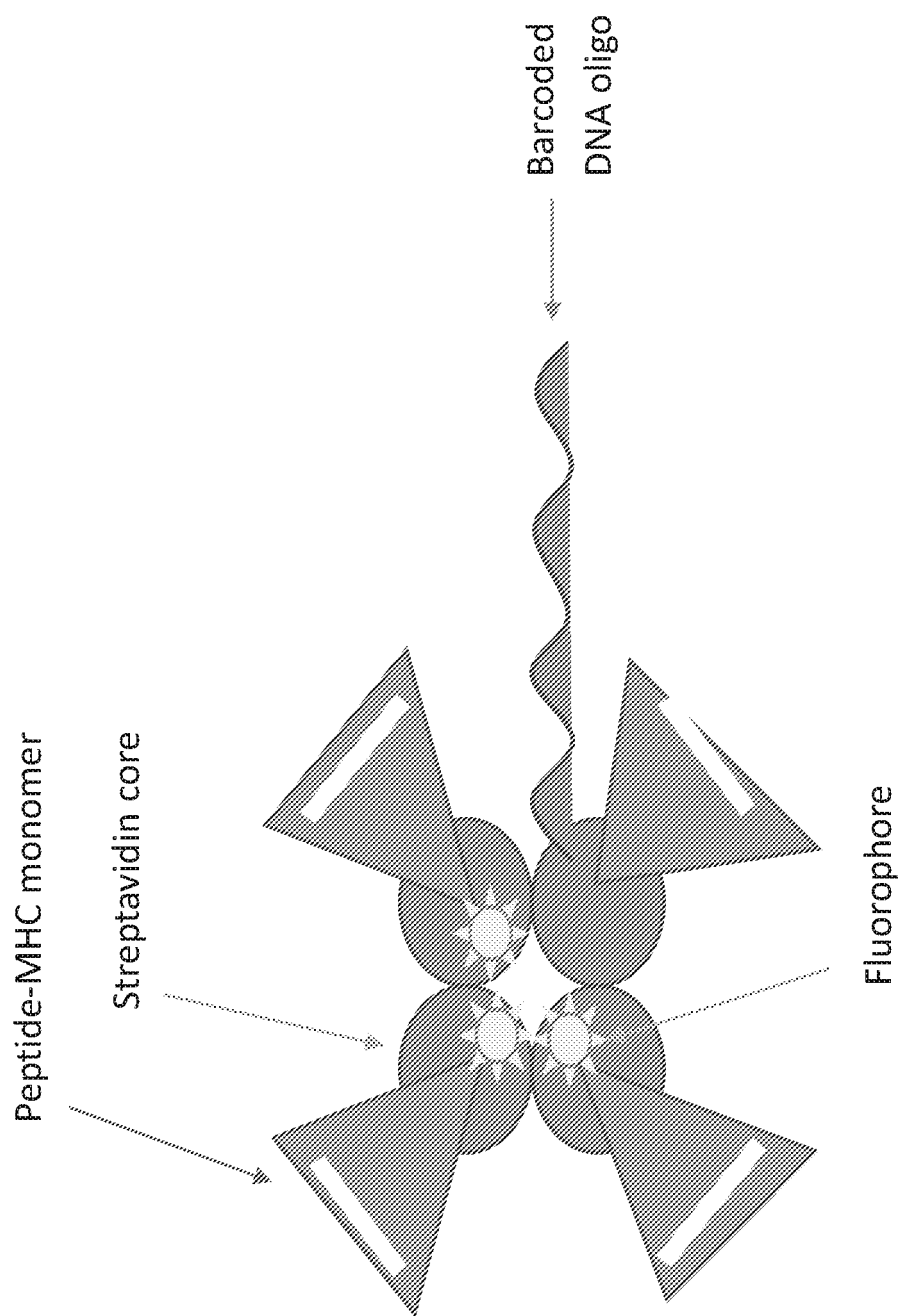


FIG. 10B

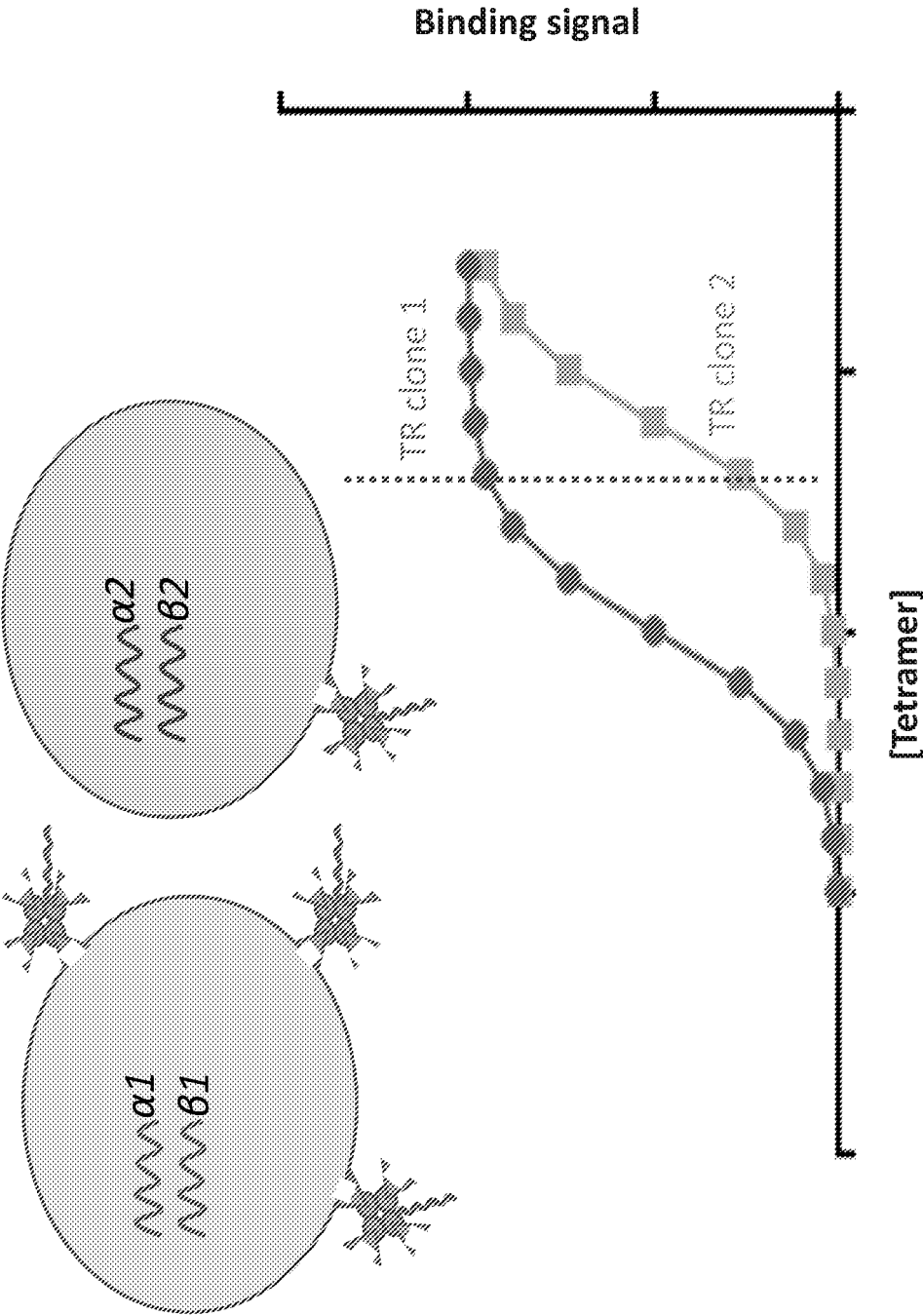


FIG. 11A

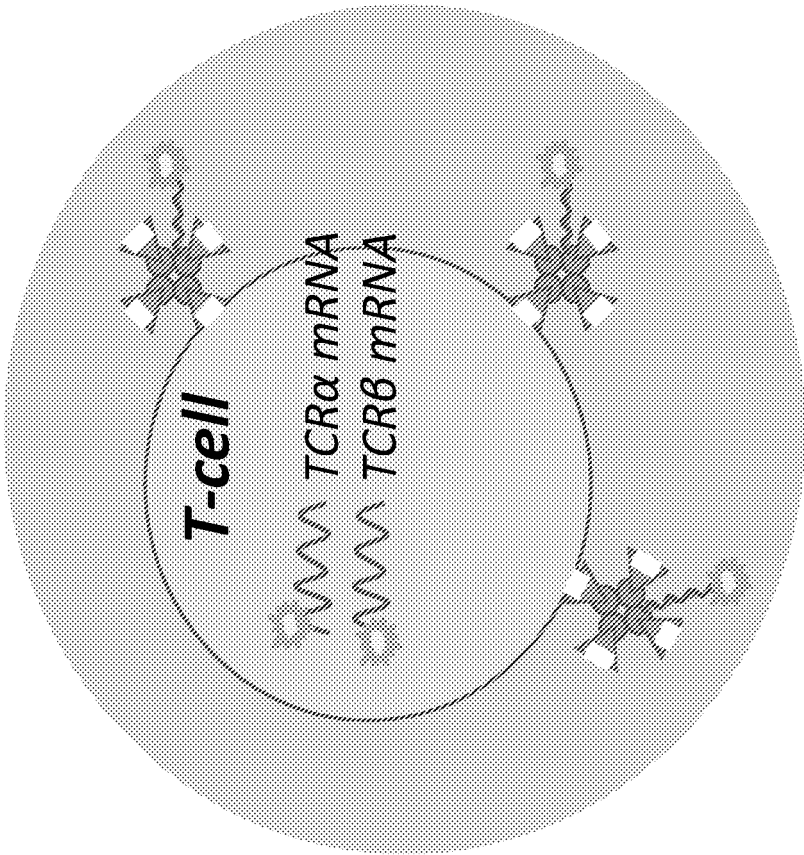


FIG. 12B

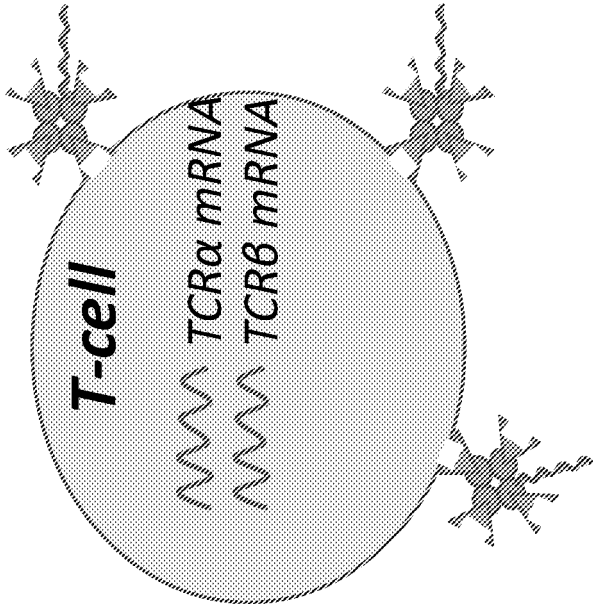


FIG. 12A

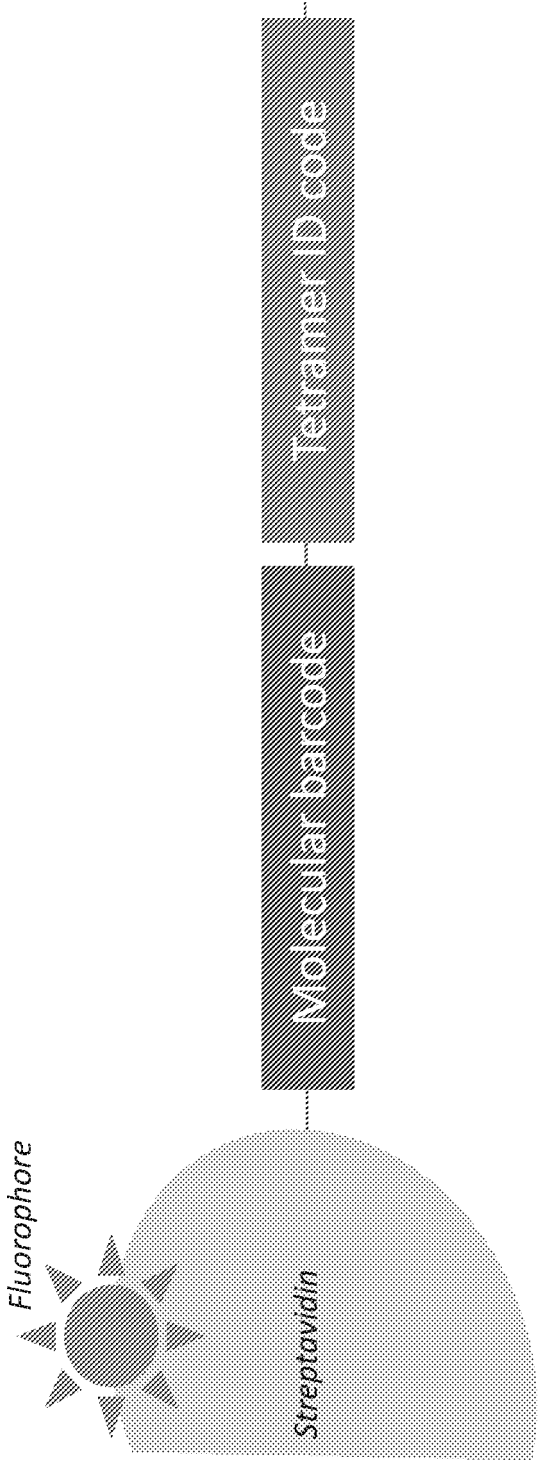


FIG. 13

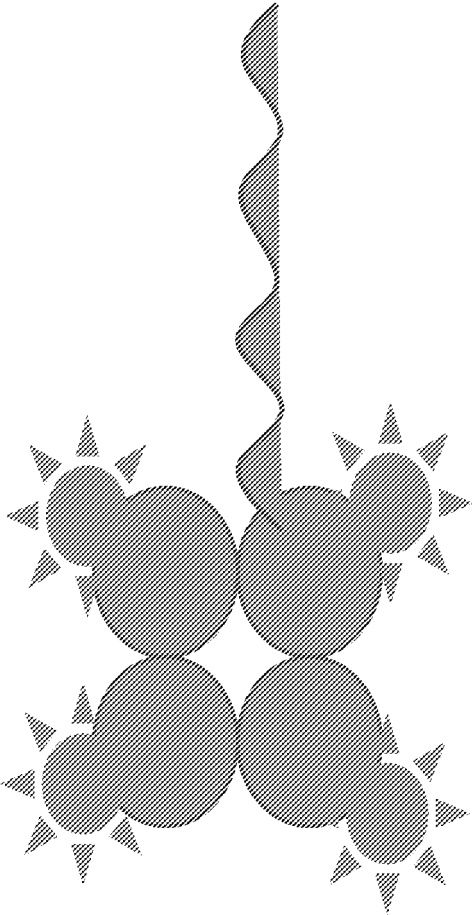
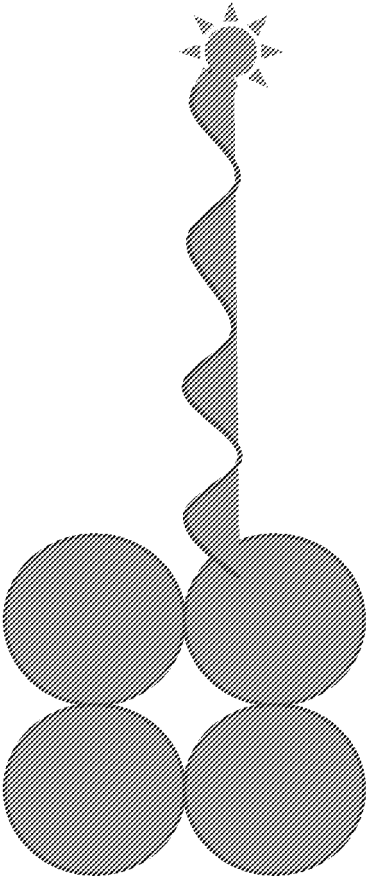
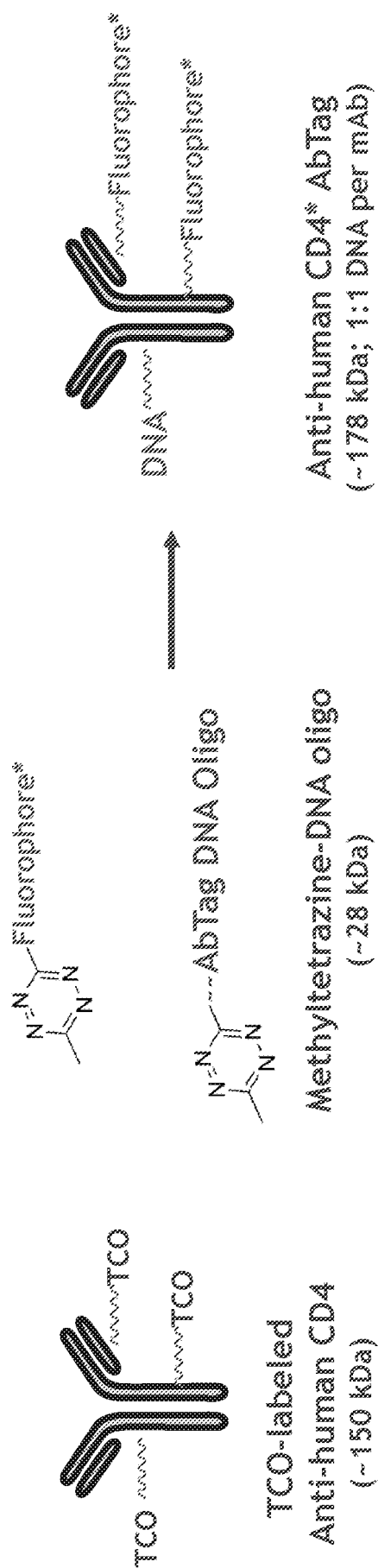


FIG. 14



TCO Ligation (Diels-Alder Cycloaddition):

trans cyclooctene (TCO) + tetrazine $\rightarrow$ *trans* cyclooctane 4,5-dihydropyridazine

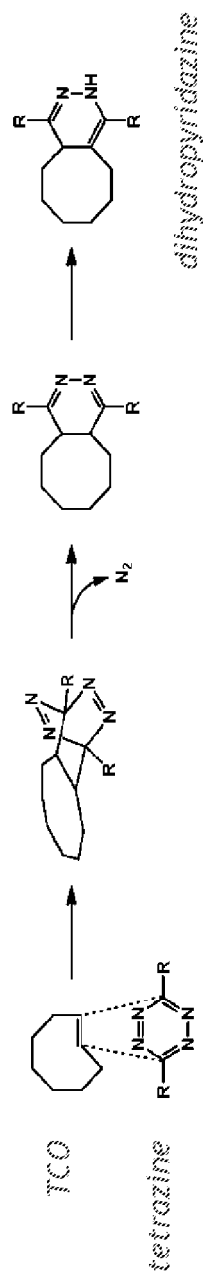
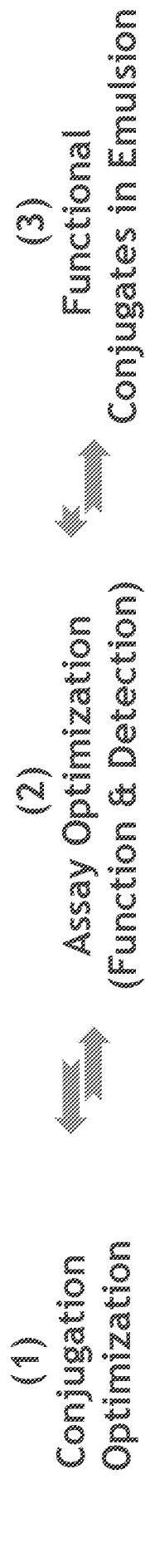
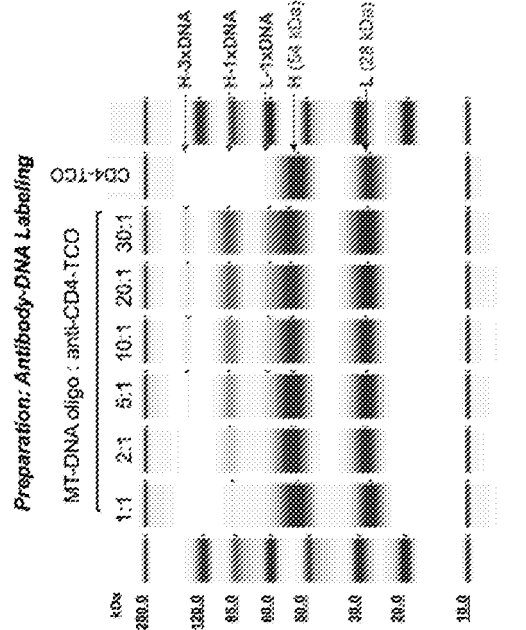


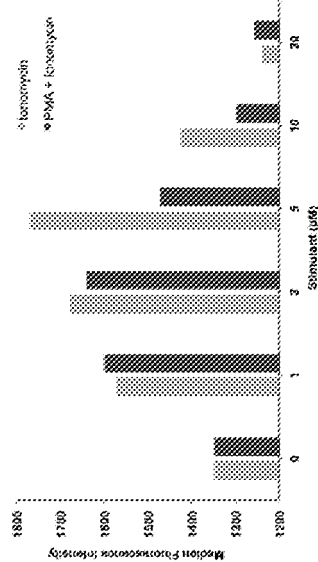
FIG. 15



DNA-labeling optimized
5'-amine-DNA → 90-100% tetrazine-DNA
mAb-TCO options available
1 to 5 TCO sites per mAb
mAb-DNA conjugation verified



Flow Cytometry: Target Binding



qPCR Assay:
DNA-tags per mAb & signal-to-noise

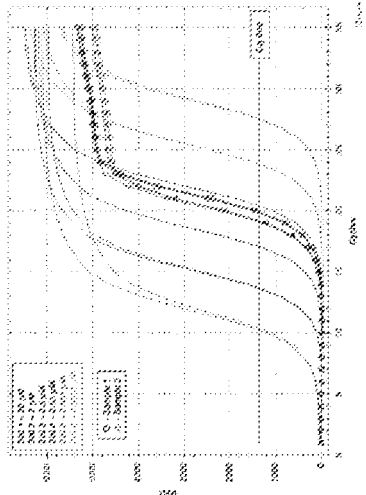


FIG. 16

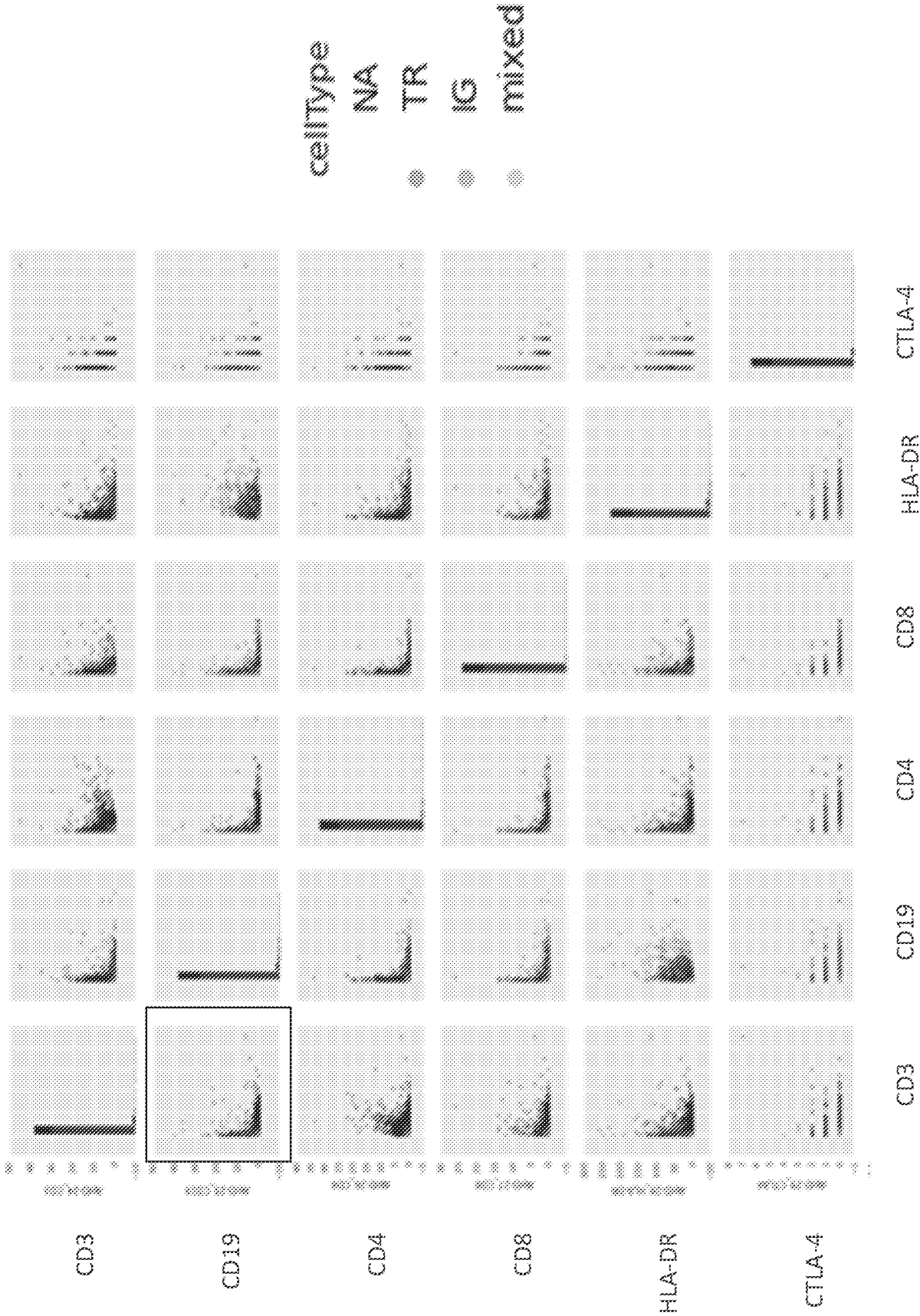


FIG. 17