Figure 1: Initial screen for tyrosinase-peptide specific T cells
Specificity: HLA-A2 + tyrosinase-peptide YMDGTMSQV

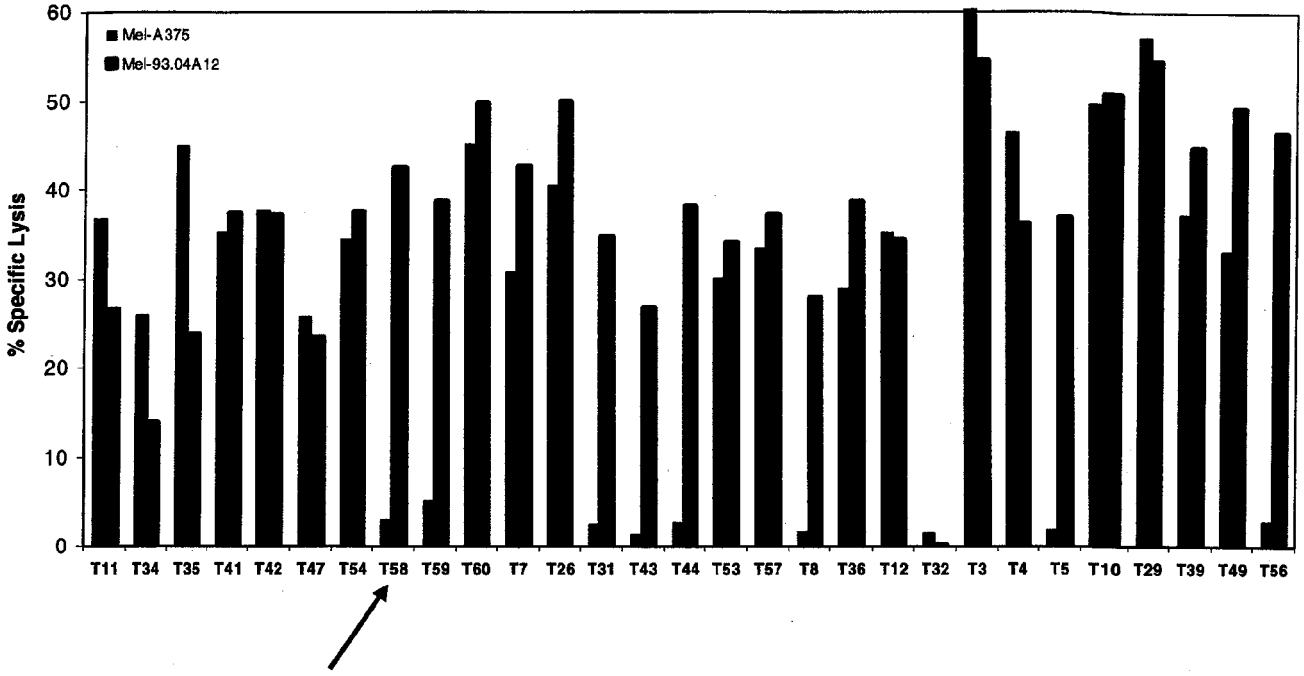


Figure 2: Allo-restricted T cell clone T58 vs.
patient derived T cell clone IVS-B
Specificity: HLA-A2 + tyrosinase-peptide YMDGTMSQV

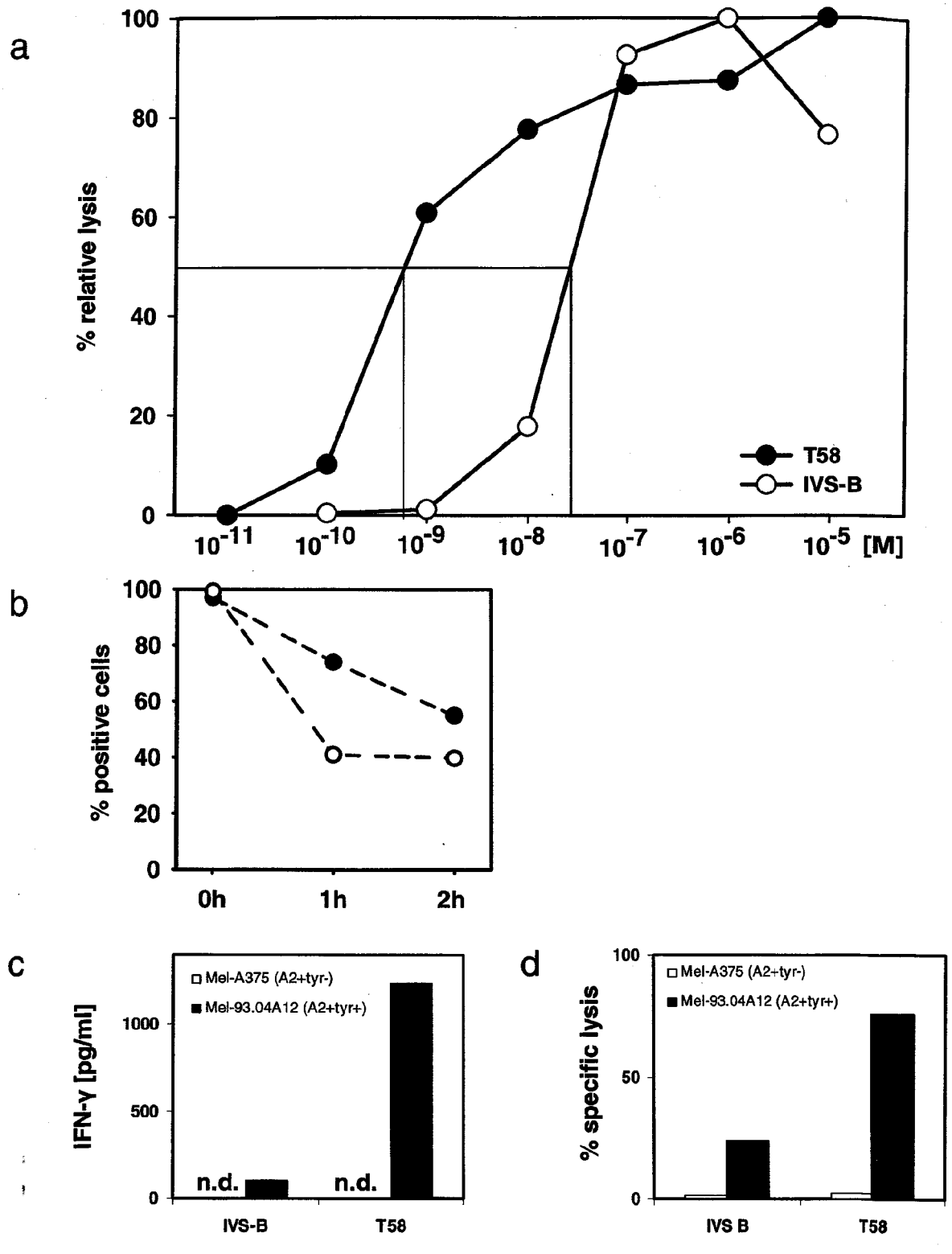


Figure 3: Allo-restricted T cell clone T58 vs. patient derived T cell clone IVS-B Recognition of primary tumor cells

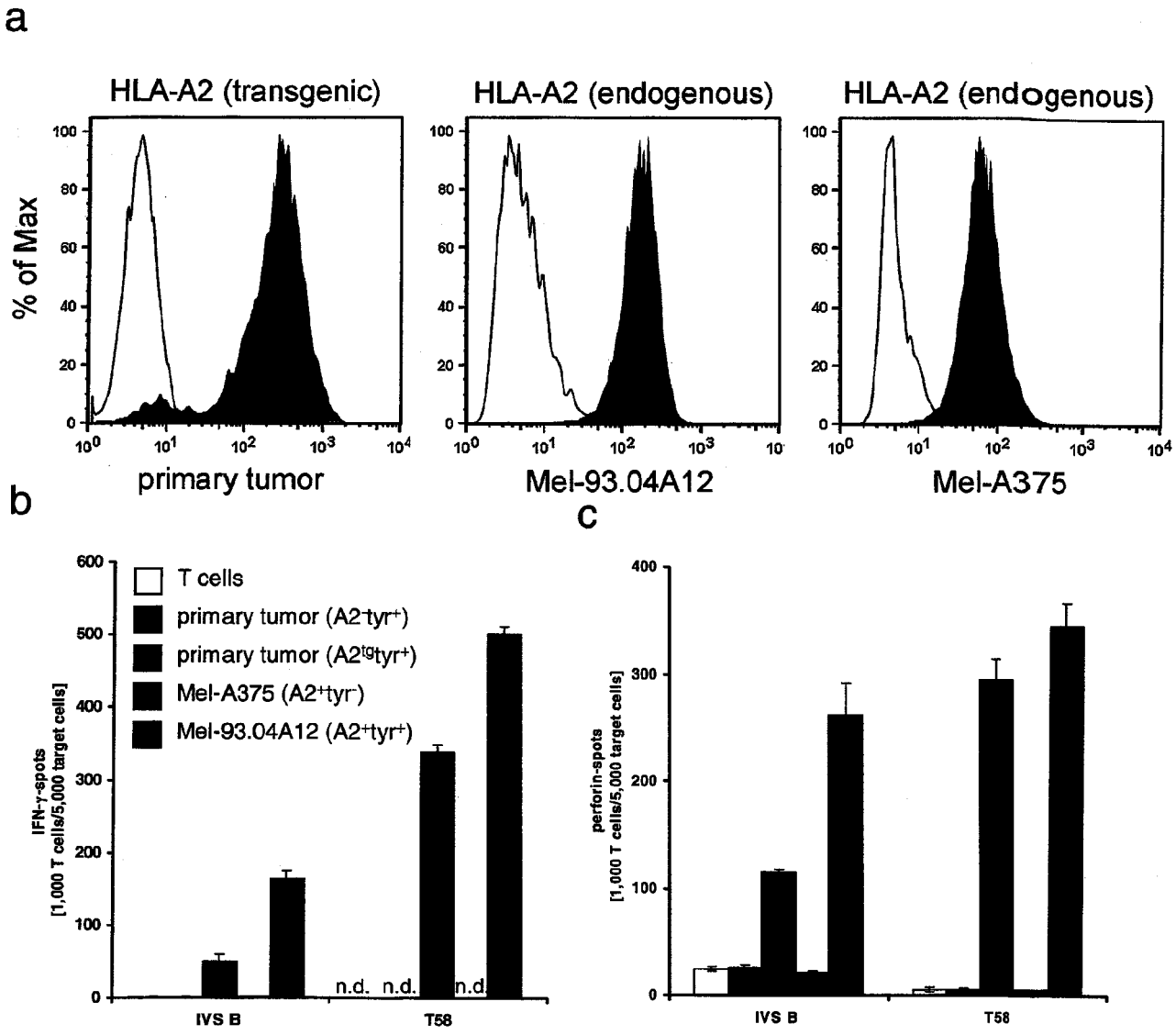


Figure 4: TCR-T58 transduced PBL
Specificity: HLA-A2 + tyrosinase-peptide YMDGTMSQV

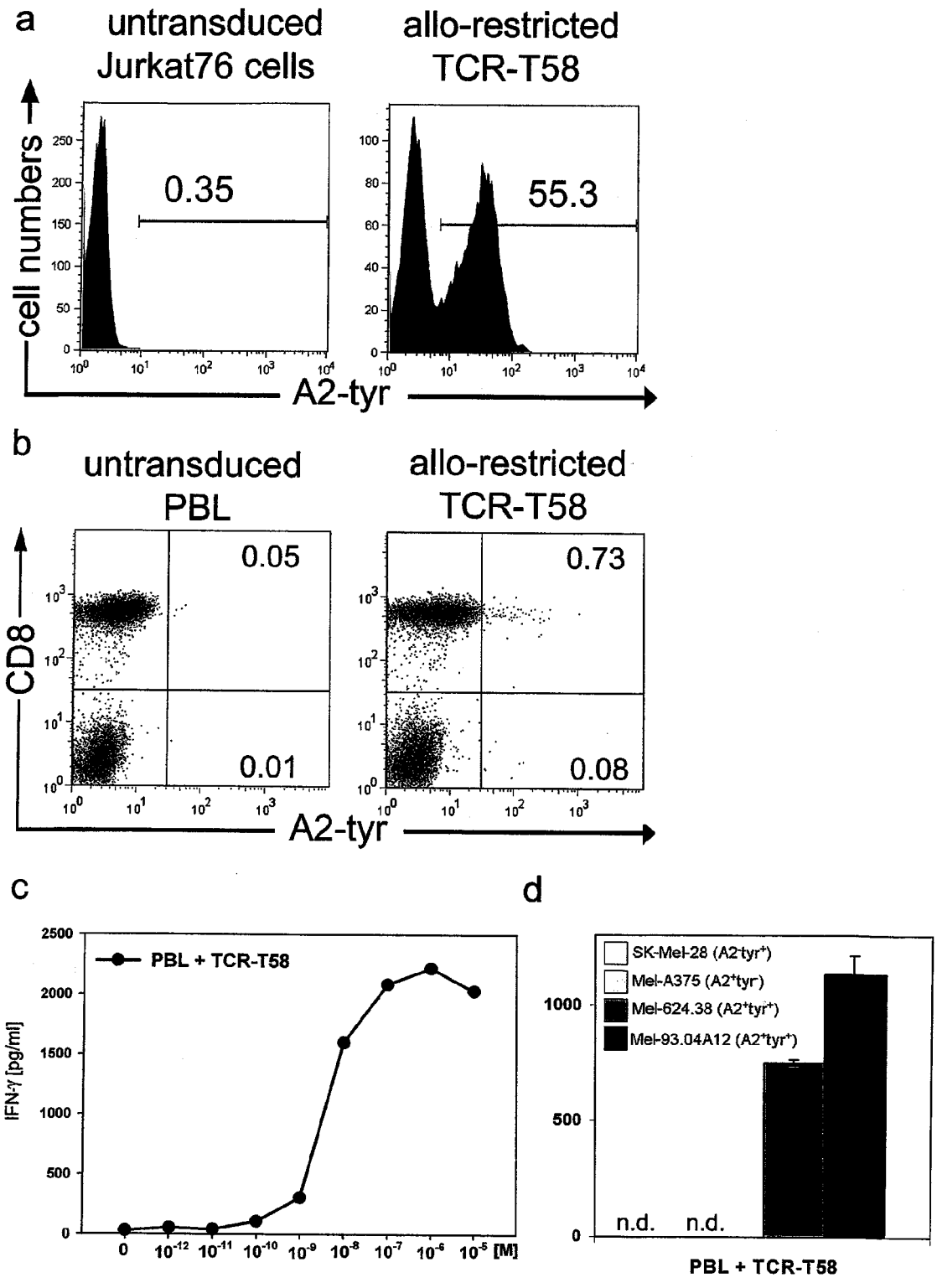
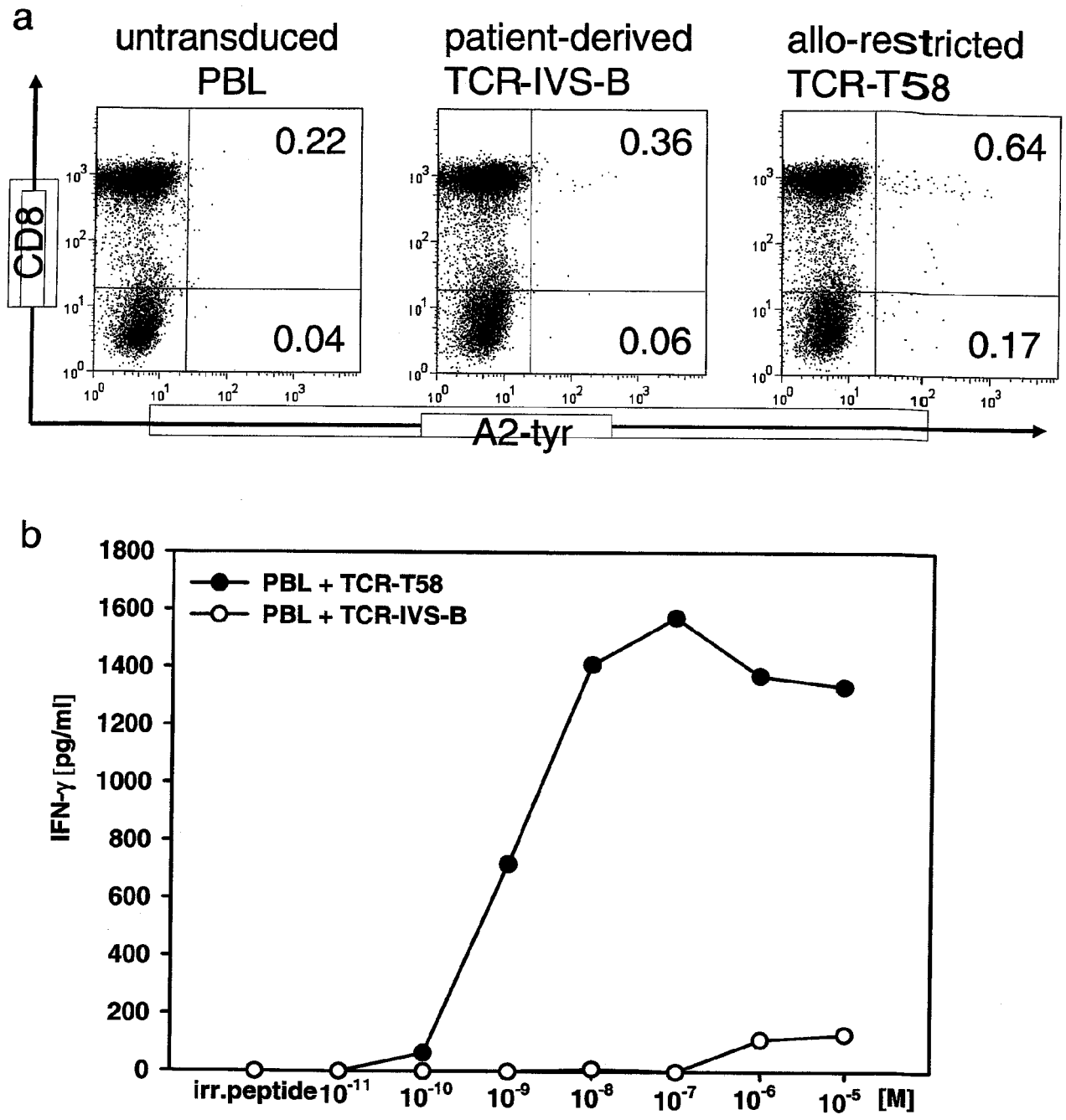


Figure 5: TCR-IVS-B vs. TCR-T58 transduced PBL
Specificity: HLA-A2 + tyrosinase-peptide YMDGTMSQV



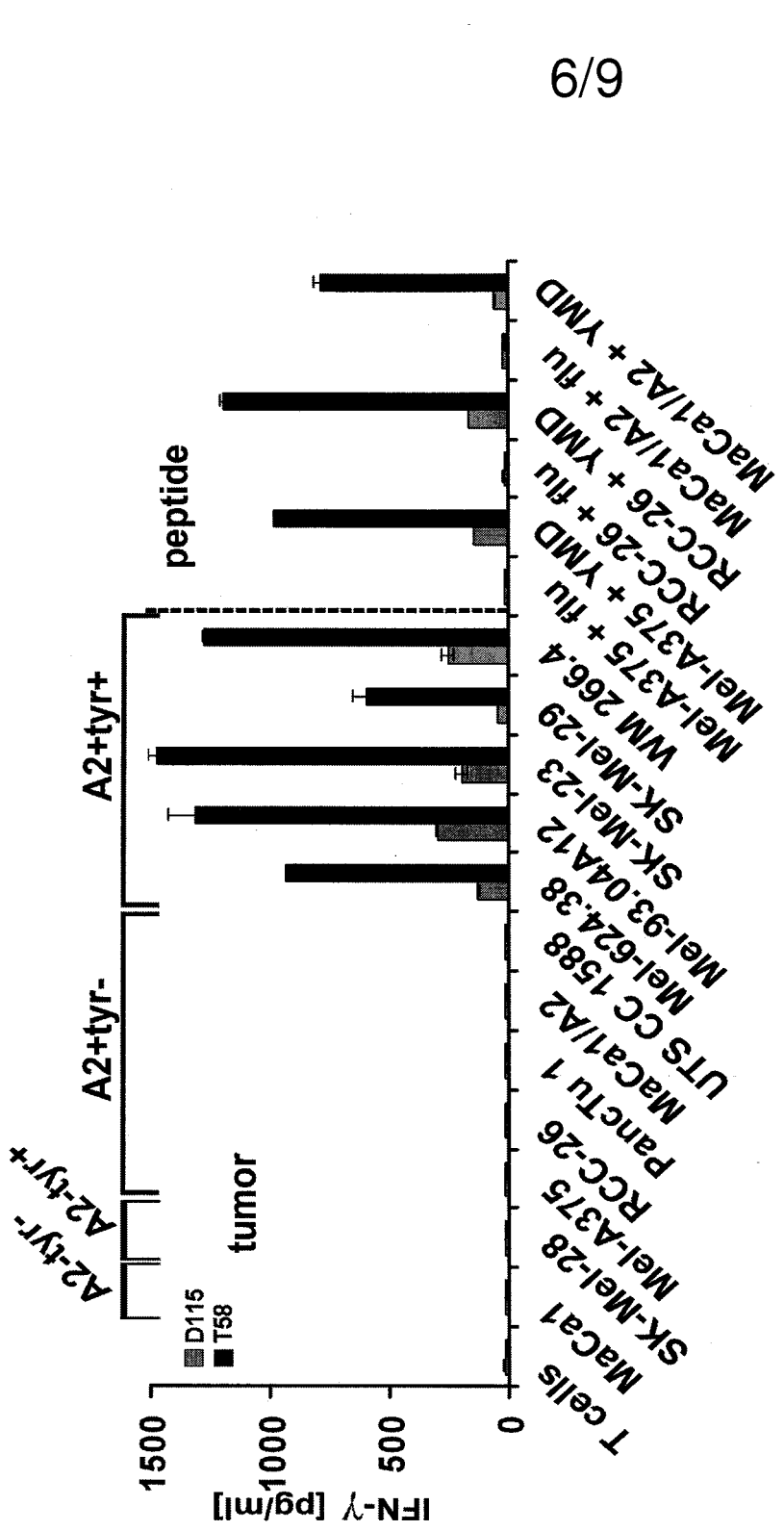

Functional capacities differ for self-restricted D115 and allo-restricted T58 cells
IFN-γ [pg/ml]
1500
1000
500
0
D115
T58
A2-tyr-
A2-tyr+
A2+tyr-
A2+tyr+
tumor
peptide
T cells
MaCa1
Sk-Mel-28
Mel-A375
RCC-26
PancTu 1
MaCa1/A2
UTS CC 1588
Mel-624.38
Mel-93.04A12
Sk-Mel-23
Sk-Mel-29
WM 266.4
Mel-A375 + flu
Mel-A375 + YMD
RCC-26 + flu
RCC-26 + YMD
MaCa1/A2 + flu
MaCa1/A2 + YMD

Figure 6

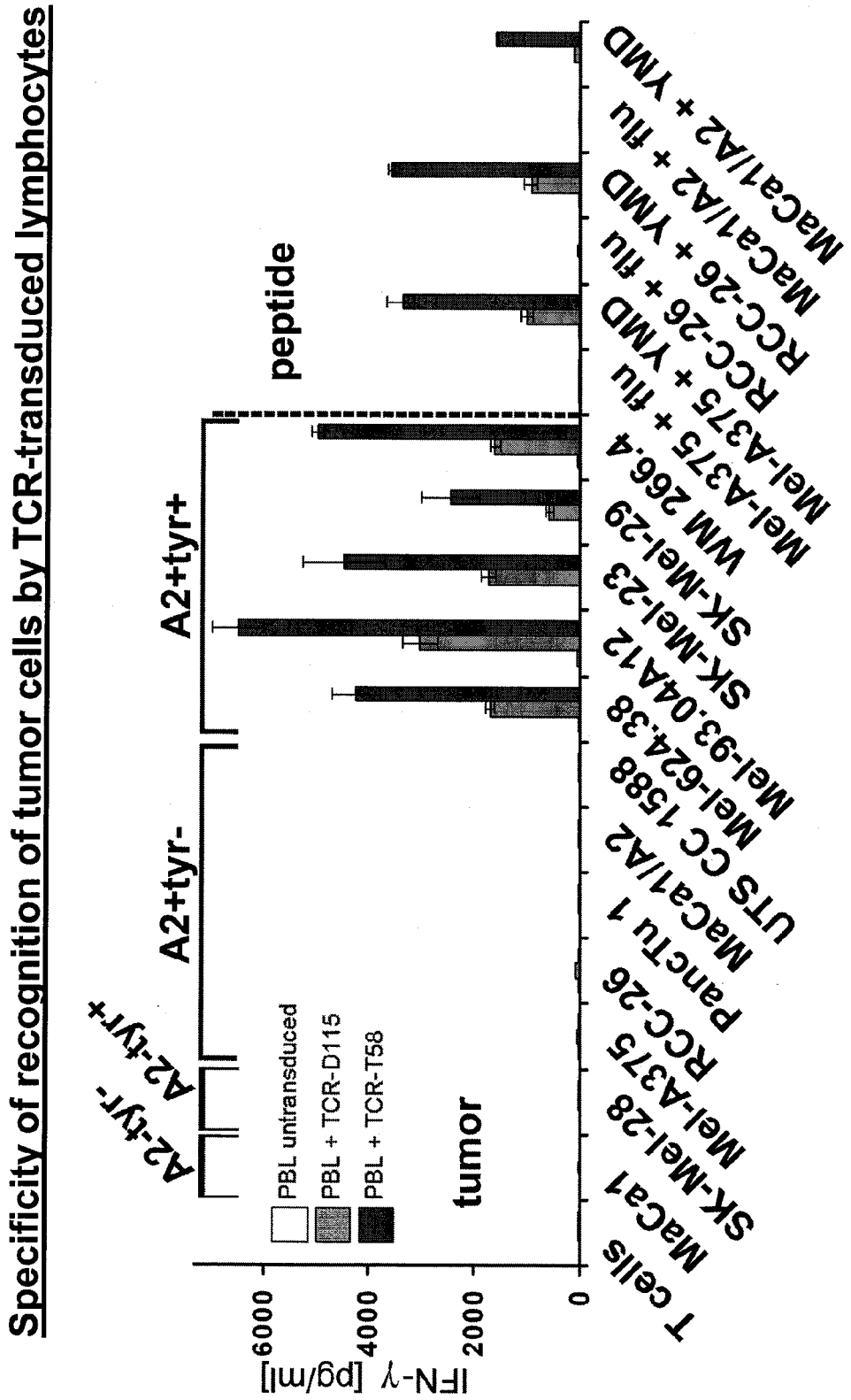

Specificity of recognition of tumor cells by TCR-transduced lymphocytes
IFN-γ [pg/ml]
6000
4000
2000
0
PBL untransduced
PBL + TCR-D115
PBL + TCR-T58
A2-tyr-
A2-tyr+
A2+tyr-
A2+tyr+
tumor
peptide
T cells
MaCa1
SK-Mel-28
Mel-A375
RCC-26
PancTu 1
MaCa1/A2
UTS CC 1588
Mel-624.38
Mel-93.04A12
SK-Mel-23
SK-Mel-29
WM 266.4
Mel-A375 + flu
Mel-A375 + YMD
RCC-26 + flu
RCC-26 + YMD
MaCa1/A2 + flu
MaCa1/A2 + YMD

Figure 7

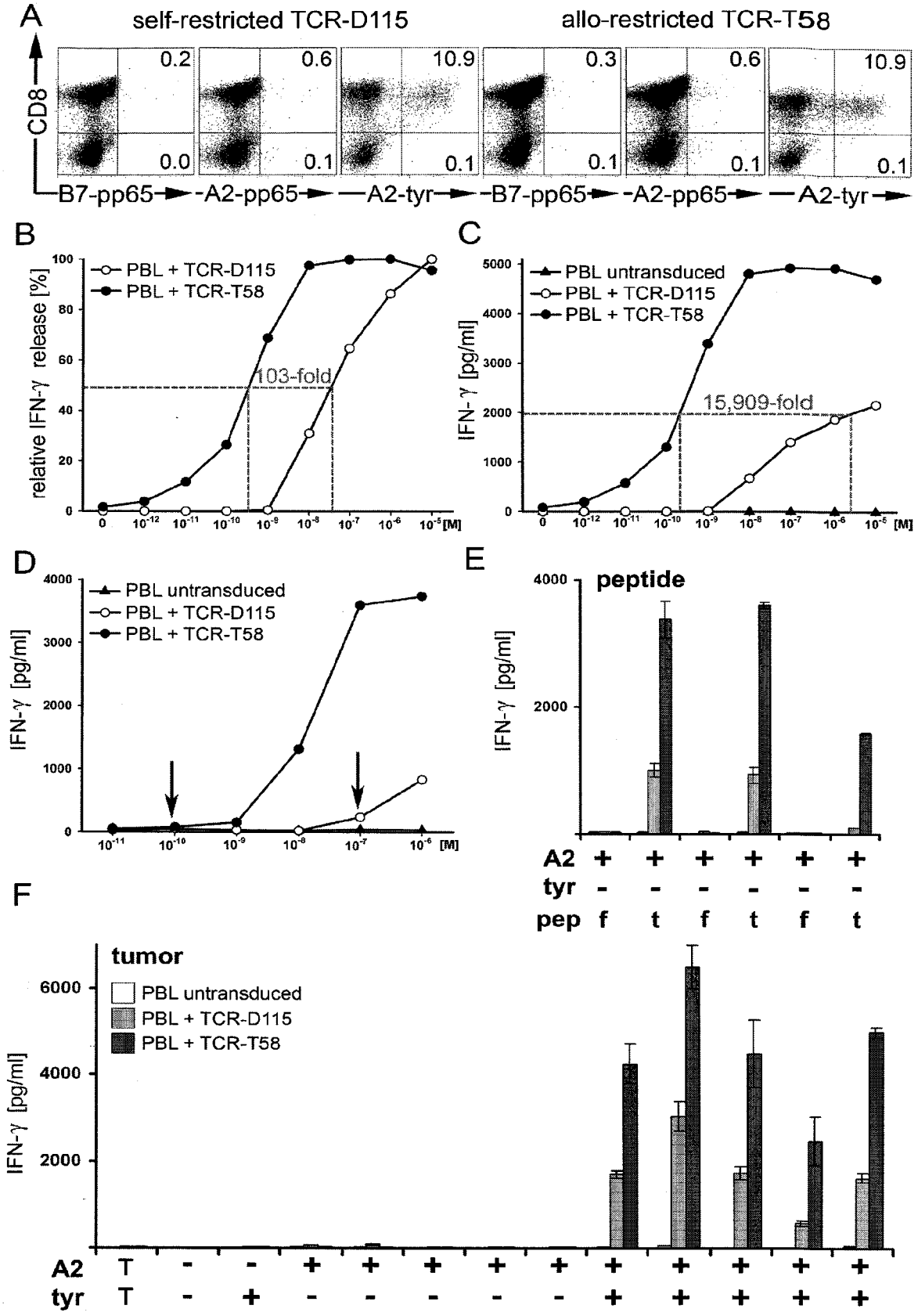

A
self-restricted TCR-D115
allo-restricted TCR-T58
CD8
0.2
0.6
10.9
0.0
0.1
0.1
0.3
0.6
10.9
0.1
0.1
0.1
B7-pp65
A2-pp65
A2-tyr
B7-pp65
A2-pp65
A2-tyr
B
relative IFN-γ release [%]
PBL + TCR-D115
PBL + TCR-T58
103-fold
[M]
C
IFN-γ [pg/ml]
PBL untransduced
PBL + TCR-D115
PBL + TCR-T58
15,909-fold
[M]
D
IFN-γ [pg/ml]
PBL untransduced
PBL + TCR-D115
PBL + TCR-T58
[M]
E
peptide
IFN-γ [pg/ml]
A2 + + + + + +
tyr - - - - - -
pep f t f t f t
F
tumor
PBL untransduced
PBL + TCR-D115
PBL + TCR-T58
IFN-γ [pg/ml]
A2 T - - + + + + + + + + + +
tyr T - + - - - - - + + + + +

Figure 8

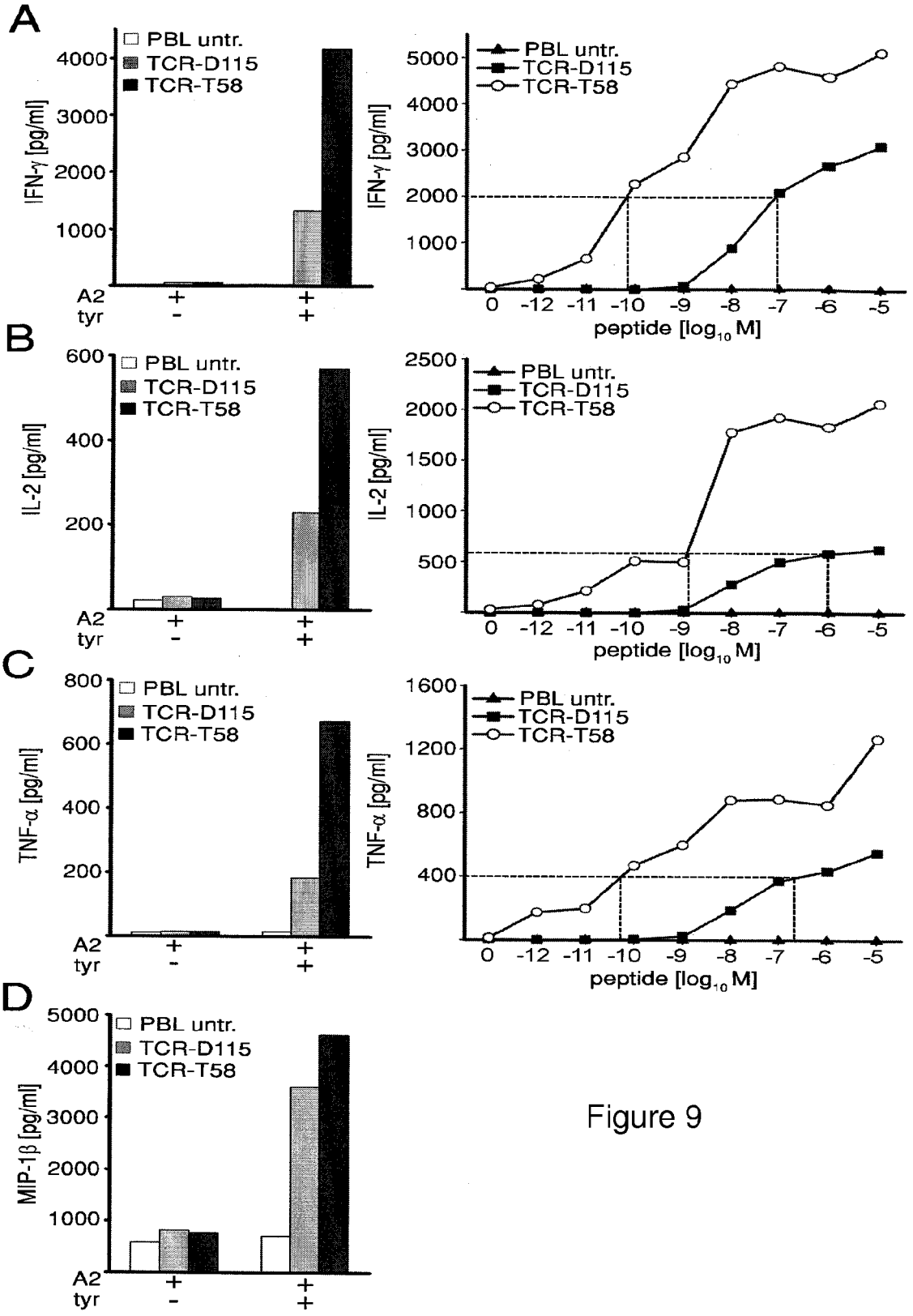

A
PBL untr.
TCR-D115
TCR-T58
IFN-γ [pg/ml]
4000
3000
2000
1000
A2
tyr
+
-
+
+
5000
4000
3000
2000
1000
0 -12 -11 -10 -9 -8 -7 -6 -5
peptide [log10 M]
B
IL-2 [pg/ml]
600
400
200
2500
2000
1500
1000
500
C
TNF-α [pg/ml]
800
600
400
200
1600
1200
800
400
D
MIP-1β [pg/ml]
5000
4000
3000
2000
1000

Figure 9