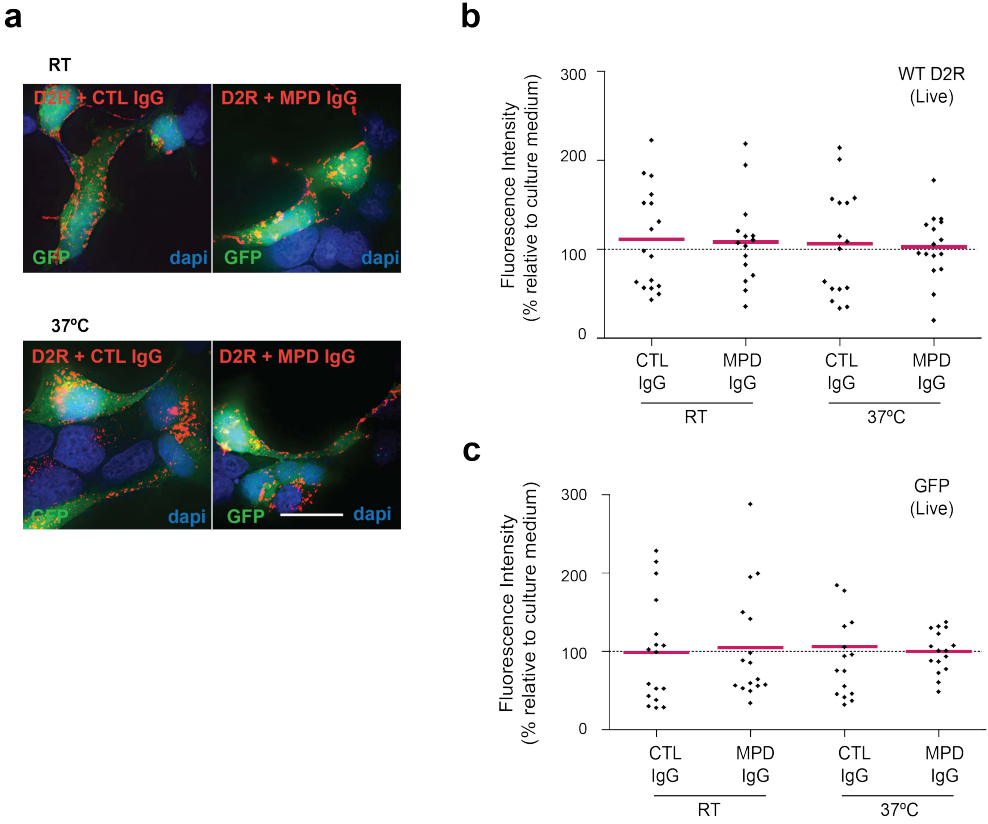


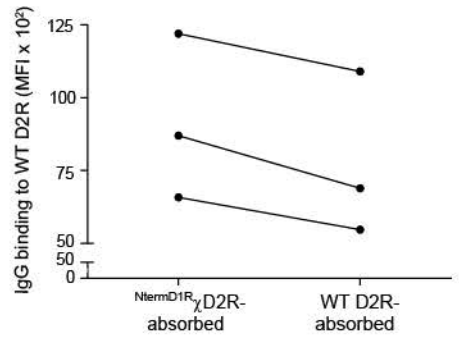
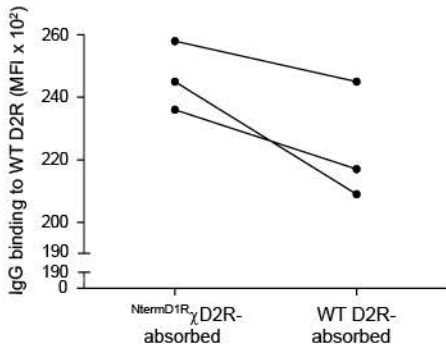
### Introduction Figure S1

Patient anti-D2R IgG antibodies did not induce a decrease in D2R surface expression after 30 min at room temperature or 37 °C. Nuclei stained with dapi. Volume projection of entire Z-stack are shown and 1 diamond represents 1 cell. Results are expressed as fluorescence intensity relative to culture medium (100%) after normalization to GFP and red bars represent mean. Data was analyzed by Mann-Whitney U test: not significant.



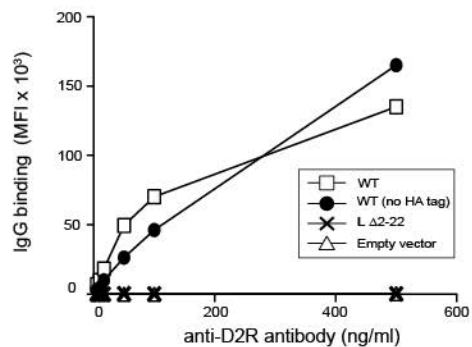
### Introduction Figure S2

Immunoreactivity to WT D2R-transfected live HEK293 cells in WT D2R- and <sup>NTermD1R</sup> $\chi$ D2R-immunoabsorbed MPD sera (n = 6) was assessed by flow cytometry live cell-based assay.



### Introduction Figure S3

Commercial extracellular N-terminus-targeting anti-human D2R monoclonal antibody immunolabeled live WT D2R with and without HA tag, suggesting the epitope of lies within amino acids 2-22 and confirming that the HA tag needs to be used to ensure surface recognition of mutants.



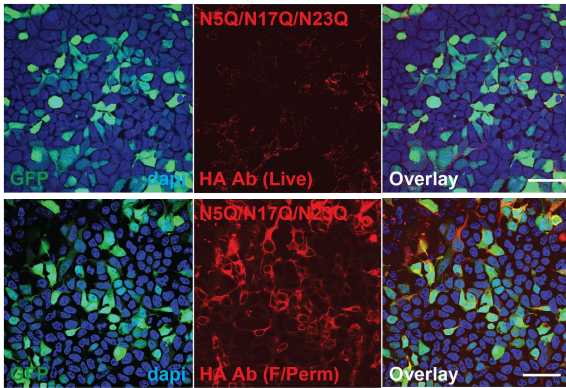
## Introduction Figure S4

Point mutations of D2R N-glycosylation sites significantly impair D2R trafficking to cell surface. Green = putative N-glycosylation sites; Red = N to Q point mutation.

**a**

WT	1	MDPL	N	LSWYD	10	DDLER	Q	WSR	20	P	F	NGSDGKAD	30	RPHYN
N5Q/N17Q/N23Q		MDPL	Q	LSWYD		DDLER	Q	WSR		P	F	Q	GSDGKAD	RPHYN

**b**



## Introduction Figure S5

D2R extracellular N-terminal sequence alignment of different species including human (P14416), mouse (P61168), rat (P61169), chimpanzee (H2R3M5), green monkey (P52702), cow (F1N4I3), pig (F1SM69), European ferret (Q6TLI9), dog (Q9GK99), chicken (A9YZQ5), African clawed frog (P24628), and Japanese pufferfish (P53453). N-glycosylation sites are shown in green highlights.

		D2R extracellular N-terminal domain		
		1	MDPLNLSWYDD-DLERQ <b>N</b> WSR <b>P</b> F <b>N</b> GS <b>D</b> GKAD <b>R</b> PHYNY	37
<i>Homo Sapiens</i>	<b>Human</b>			
<i>Mus musculus</i>	<b>Mouse</b>	1	MDPLNLSWYDD-DLERQ <b>N</b> WSR <b>P</b> F <b>N</b> SE <b>G</b> K <b>P</b> DRPHYNY	37
<i>Rattus norvegicus</i>	<b>Rat</b>	1	MDPLNLSWYDD-DLERQ <b>N</b> WSR <b>P</b> F <b>N</b> SE <b>G</b> KAD <b>R</b> PHYNY	37
<i>Pan troglodytes</i>	<b>Chimpanzee</b>	1	MDPLNLSWYDD-DLERQ <b>N</b> WSR <b>P</b> F <b>N</b> GS <b>D</b> GKAD <b>R</b> PHYNY	37
<i>Chlorocebus aethiops</i>	<b>Green monkey</b>	1	MDPLNLSWYDD-DLERQ <b>N</b> WSR <b>P</b> F <b>N</b> GS <b>D</b> GKAD <b>R</b> PHYNY	37
<i>Bos taurus</i>	<b>Cow</b>	1	MDPLNLSWYDD-D <b>P</b> ESR <b>N</b> WSR <b>P</b> F <b>N</b> SE <b>G</b> KAD <b>R</b> PPYNY	37
<i>Sus scrofa</i>	<b>Pig</b>	1	MDPLNLSWYDD-D <b>L</b> ESR <b>N</b> WSR <b>P</b> F <b>N</b> SE <b>G</b> KAD <b>R</b> PHYNY	37
<i>Mustela putorius furo</i>	<b>European ferret</b>	1	MDPLNLSWYDD-D <b>P</b> ESR <b>N</b> WSR <b>P</b> F <b>N</b> SE <b>G</b> K <b>V</b> G <b>K</b> PHYNY	37
<i>Canis lupus familiaris</i>	<b>Dog</b>	1	MDPLNLSWYDD-D <b>L</b> ES <b>Q</b> NWSR <b>P</b> F <b>N</b> SE <b>G</b> K <b>P</b> G <b>K</b> PHYNY	37
<i>Gallus gallus</i>	<b>Chicken</b>	1	MDPLNLSWYNS-G--DRN <b>W</b> SK <b>P</b> L <b>N</b> ESSA-D <b>Q</b> K <b>P</b> QYNY	34
<i>Xenopus laevis</i>	<b>African clawed frog</b>	1	M <b>D</b> P <b>Q</b> NLSMYND-D <b>I</b> NN <b>G</b> T----- <b>N</b> G <b>T</b> AVD <b>Q</b> K <b>P</b> HYNY	31
<i>Takifugu rubripes</i>	<b>Japanese pufferfish</b>	1	M <b>D</b> V <b>F</b> T <b>Q</b> Y <b>A</b> Y <b>N</b> D <b>S</b> I <b>F</b> D <b>N</b> G <b>T</b> W <b>S</b> A--- <b>N</b> E <b>T</b> T <b>K</b> D <b>E</b> T <b>H</b> PYNY	35

Human D2R

NWSRPFNGSDGKAD

unnamed protein product

FLGRPFNGQDGVAT

[*Penicillium roqueforti* FM164]

