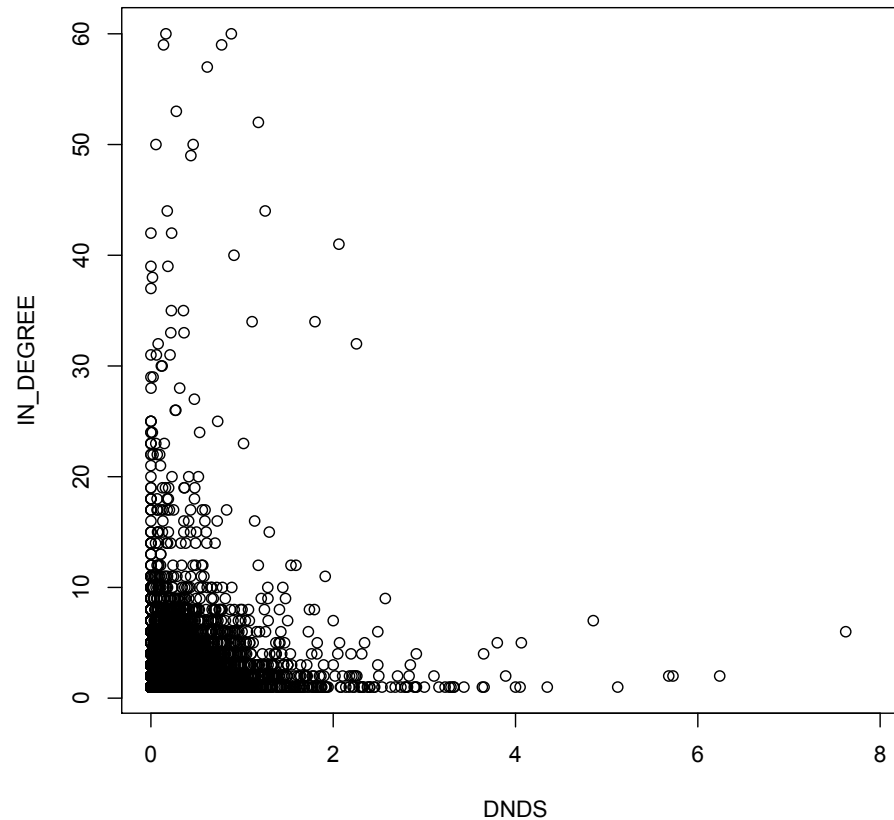# Selection on TFs and target genes
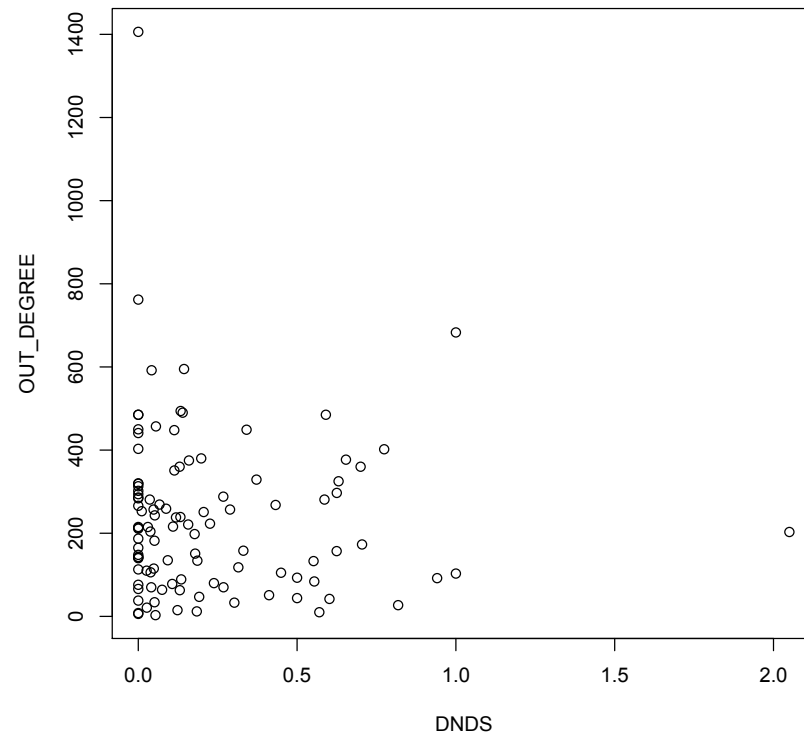
Ekta Khurana, 29 Jul 2011

Targets with more regulators are under higher negative selection (chimp-human comparison)

TFs and Target genes included (in-degree > 0)

Spearman corr coeff=-0.05, p value = 7.6 e-06

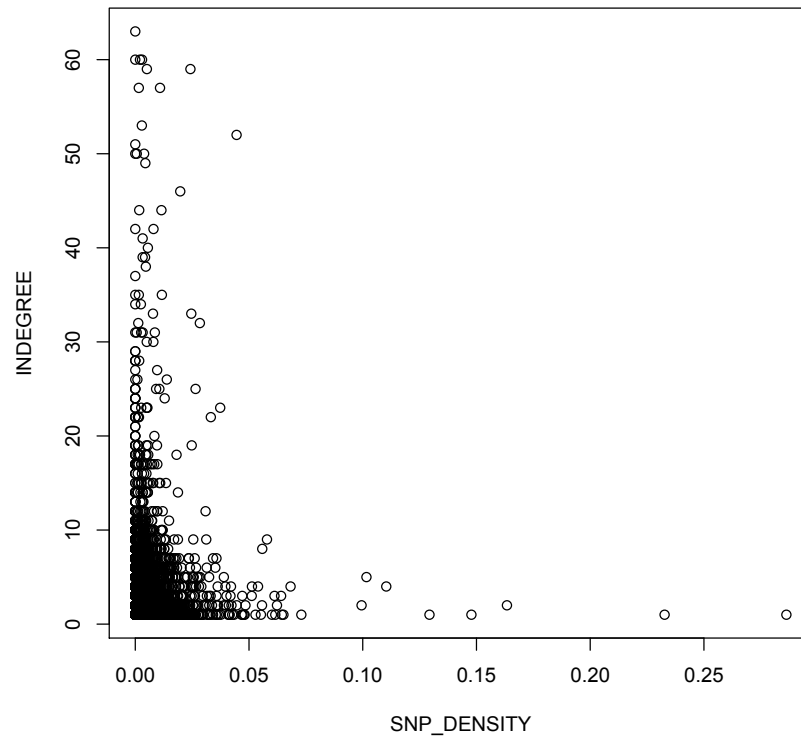# TFs and selection (chimp-human comparison)

Out-degree > 0

Spearman corr coeff=-0.08, p value = 0.39

TFs contributing most to anti-correlation

TF name	dN/dS	Out-degree
PRDM1	0.818	27
CTCF	0	1406
RAD21	0	762
FAM48A	0.57	10
NRF1	0	485
GABPA	0	485
MEF2C	0.60	42
YY1	0	450
CCNT2	0.94	92
SP1	0	441

Targets with more regulators are under higher negative selection (within humans comparison)
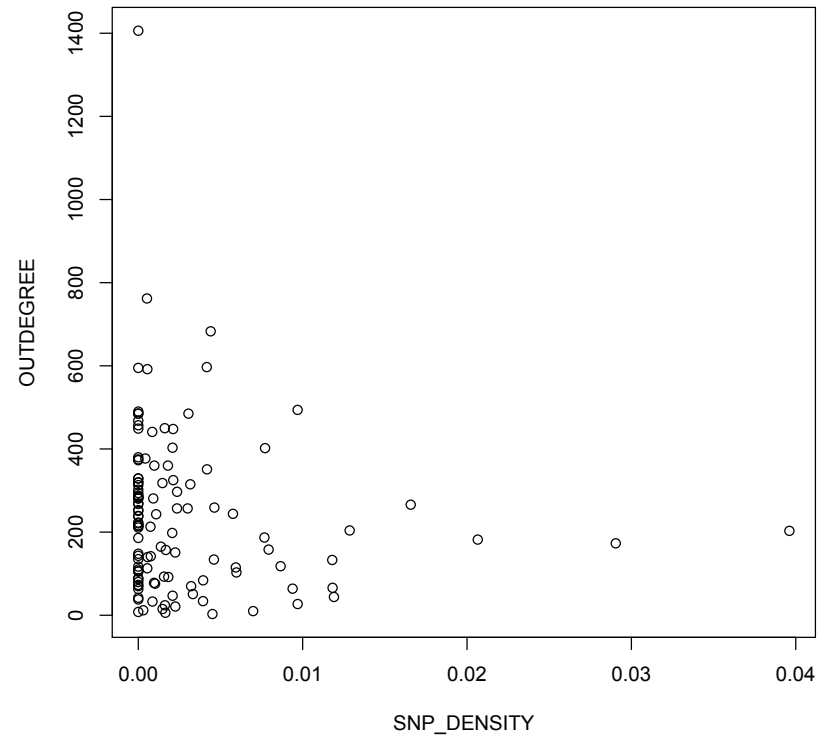
Non-synonymous SNPs from 1000 Genomes pilot project

In-degree > 0

Spearman corr coeff = - 0.05, pvalue=3.4e-05

TFs with more targets are under higher negative selection (within humans comparison)

Out-degree > 0

Spearman corr coeff = -0.19, pvalue=0.03

TFs contributing most to anti-correlation

TF name	snp_Density	Out-degree
PRDM1	0.009	27
XRCC4	0.012	44
FAM48A	0.007	10
WRNIP1	0.005	3
ESRRA	0.012	66
CTCF	0	1406
SIRT6	0.009	64
TAF1	0	595
FOS	0	490
GABPA	0	485

TFs contributing most to anti-correlation

For dN/dS	For snp density
PRDM1	**PRDM1**
CTCF	XRCC4
RAD21	**FAM48A**
FAM48A	WRNIP1
NRF1	ESRRA
GABPA	**CTCF**
MEF2C	SIRT6
YY1	TAF1
CCNT2	FOS
SP1	**GABPA**