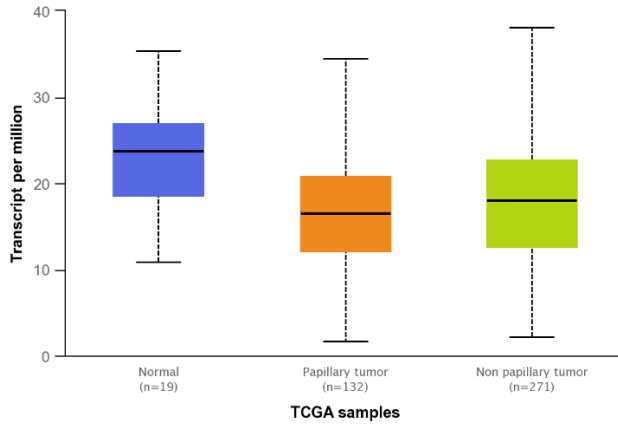


## Panel 1. *PTEN* expression in urologic tumours.

A.

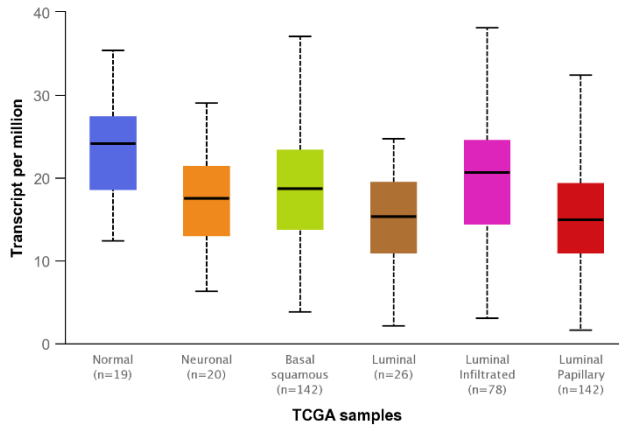
Expression of *PTEN* in BLCA based on Histological subtypes



Comparison	Statistical significance
Normal-vs-Papillary tumors	1.362730E-03
Normal-vs-NonPapillary tumors	4.456500E-03
Papillary tumors-vs-NonPapillary tumors	2.386600E-01

B.

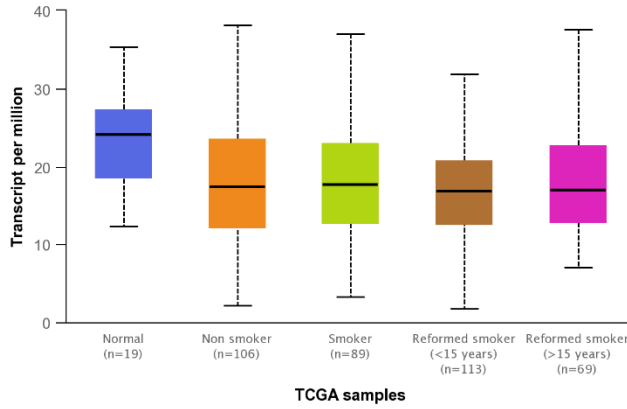
Expression of *PTEN* based on molecular subtypes of BLCA



Comparison	Statistical significance
Normal-vs-Neuronal	4.642500E-03
Normal-vs-Basal squamous	4.781900E-03
Normal-vs-Luminal	2.10439999999741E-05
Normal-vs-Luminal_Infiltrated	1.191370E-01
Normal-vs-Luminal_Papillary	2.23019999999741E-05
Neuronal-vs-Basal squamous	4.024800E-01
Neuronal-vs-Luminal	7.763600E-02
Neuronal-vs-Luminal_Infiltrated	1.385620E-01
Neuronal-vs-Luminal_Papillary	3.686800E-01
Basal squamous-vs-Luminal	2.439500E-03
Basal squamous-vs-Luminal_Infiltrated	1.511420E-01
Basal squamous-vs-Luminal_Papillary	6.981600E-04
Luminal-vs-Luminal_Infiltrated	1.352190E-04
Luminal-vs-Luminal_Papillary	2.987000E-01
Luminal_Infiltrated-vs-Luminal_Papillary	4.31389999999698E-05

C.

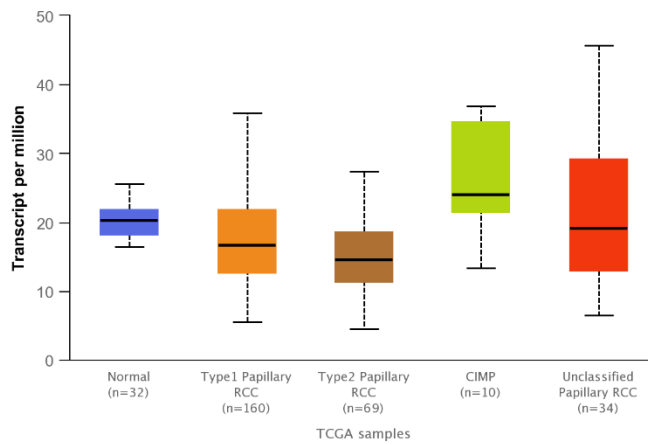
Expression of PTEN in BLCA based on patient's smoking habits



Comparison	Statistical significance
Normal-vs-Non smoker	1.281050E-03
Normal-vs-Smoker	4.784700E-03
Normal-vs-Reformed smoker1	2.446300E-04
Normal-vs-Reformed smoker2	6.636600E-03
Non smoker-vs-Smoker	5.367800E-01
Non smoker-vs-Reformed smoker1	5.817400E-01
Non smoker-vs-Reformed smoker2	5.266800E-01
Smoker-vs-Reformed smoker1	2.428800E-01
Smoker-vs-Reformed smoker2	9.550000E-01
Reformed smoker1-vs-Reformed smoker2	2.507400E-01

D.

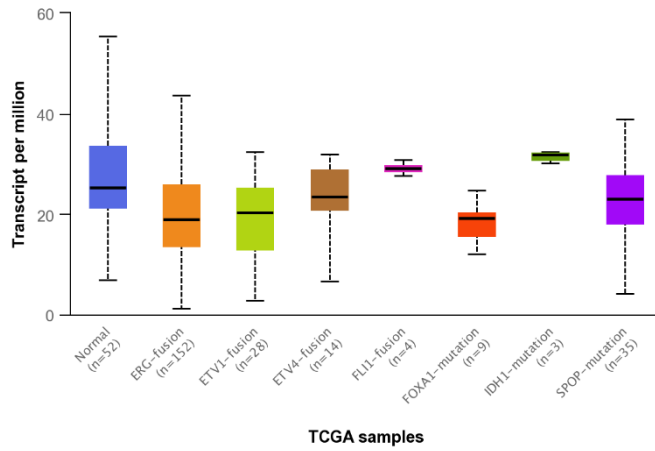
Expression of PTEN in KIRP based on histologic subtypes



Comparison	Statistical significance
Normal-VS-Type1 PRCC	1.362310E-03
Normal-VS-Type2 PRCC	3.72520000000431E-05
Normal-VS-KIRP CIMP	1.099190E-01
Normal-VS-Unclassified PRCC	5.635600E-01
Type1 PRCC-VS-Type2 PRCC	1.651950E-01
Type1 PRCC-VS-KIRP CIMP	8.429800E-04
Type1 PRCC-VS-Unclassified PRCC	7.194200E-02
Type2 PRCC-VS-KIRP CIMP	7.035500E-04
Type2 PRCC-VS-Unclassified PRCC	9.359000E-03
KIRP CIMP-VS-Unclassified PRCC	1.731440E-01

E.

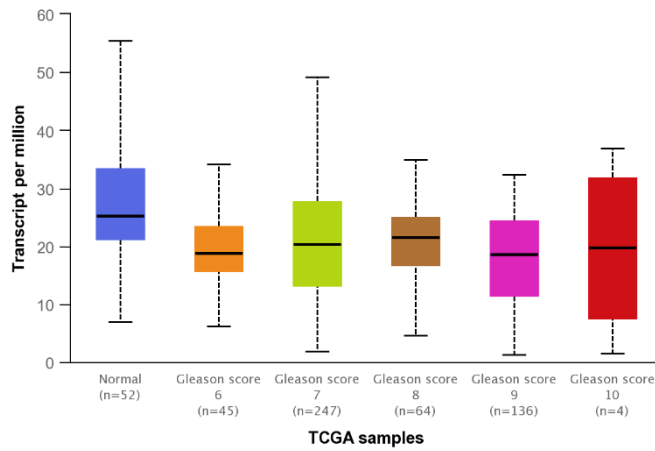
Expression of PTEN in PRAD based on molecular signature



Comparison	Statistical significance
Normal-vs-ERG fusion	1.59996999999912E-05
Normal-vs-ETV1 fusion	3.51769999999973E-05
Normal-vs-ETV4 fusion	9.179500E-02
Normal-vs-FLI1 fusion	4.216200E-01
Normal-vs-FOXA1 mutation	1.563590E-04
Normal-vs-IDH1 mutation	8.805000E-01
Normal-vs-SPOP mutation	1.123780E-02
ERG fusion-vs-ETV1 fusion	6.022000E-01
ERG fusion-vs-ETV4 fusion	2.195400E-01
ERG fusion-vs-FLI1 fusion	1.60359999723525E-08
ERG fusion-vs-FOXA1 mutation	8.293200E-01
ERG fusion-vs-IDH1 mutation	4.40290000014443E-07
ERG fusion-vs-SPOP mutation	3.252100E-02
ETV1 fusion-vs-ETV4 fusion	1.477150E-01
ETV1 fusion-vs-FLI1 fusion	1.582699999994687E-06
ETV1 fusion-vs-FOXA1 mutation	8.219200E-01
ETV1 fusion-vs-IDH1 mutation	1.52639999972948E-07
ETV1 fusion-vs-SPOP mutation	3.516500E-02

F.

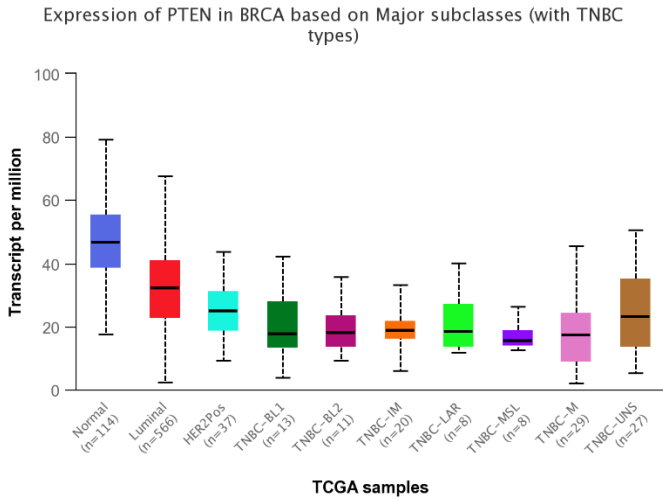
Expression of PTEN in PRAD based on patient's gleason score



Comparison	Statistical significance
Normal-vs-Gleason score 6	2.02229999999304E-05
Normal-vs-Gleason score 7	4.15190000000454E-05
Normal-vs-Gleason score 8	2.22909999999521E-05
Normal-vs-Gleason score 9	2.98629999950784E-07
Normal-vs-Gleason score 10	1.608620E-01
Gleason score 6-vs-Gleason score 7	4.061000E-01
Gleason score 6-vs-Gleason score 8	9.377600E-01
Gleason score 6-vs-Gleason score 9	1.608000E-01
Gleason score 6-vs-Gleason score 10	9.559200E-01
Gleason score 7-vs-Gleason score 8	5.001600E-01
Gleason score 7-vs-Gleason score 9	5.080600E-03
Gleason score 7-vs-Gleason score 10	7.586800E-01
Gleason score 8-vs-Gleason score 9	1.509020E-01
Gleason score 8-vs-Gleason score 10	9.454200E-01
Gleason score 9-vs-Gleason score 10	7.797400E-01

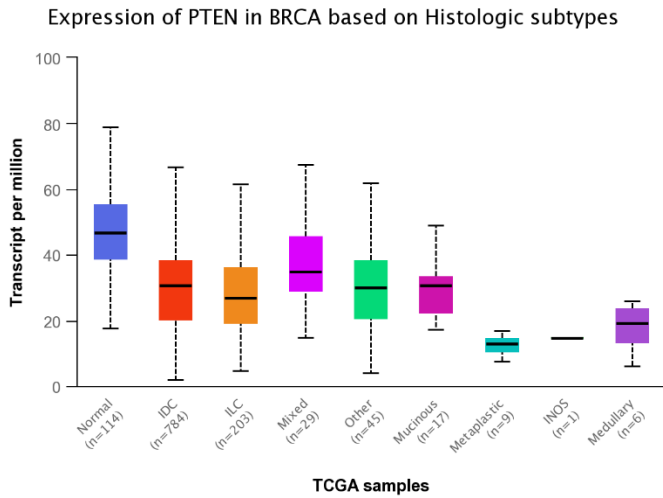
**Panel 2. *PTEN* expression in BRCA.**

**A.**



Comparison	Statistical significance
Normal-vs-Luminal	1.62447832963153E-12
Normal-vs-HER2Pos	5.48240342013173E-11
Normal-vs-TNBC-BL1	6.36160000011543E-07
Normal-vs-TNBC-BL2	2.9170000043527E-07
Normal-vs-TNBC-IM	1.16979981257259E-10
Normal-vs-TNBC-LAR	1.51167999999924E-05
Normal-vs-TNBC-MSL	2.72050000005297E-06
Normal-vs-TNBC-M	1.11022302462516E-16
Normal-vs-TNBC-UNS	3.50299789175779E-11
Luminal-vs-HER2Pos	1.976090E-02
Luminal-vs-TNBC-BL1	1.498040E-02
Luminal-vs-TNBC-BL2	5.460100E-03
Luminal-vs-TNBC-IM	3.169500E-04
Luminal-vs-TNBC-LAR	1.368160E-02
Luminal-vs-TNBC-MSL	8.083700E-03
Luminal-vs-TNBC-M	1.04239999965117E-08
Luminal-vs-TNBC-UNS	1.118060E-03

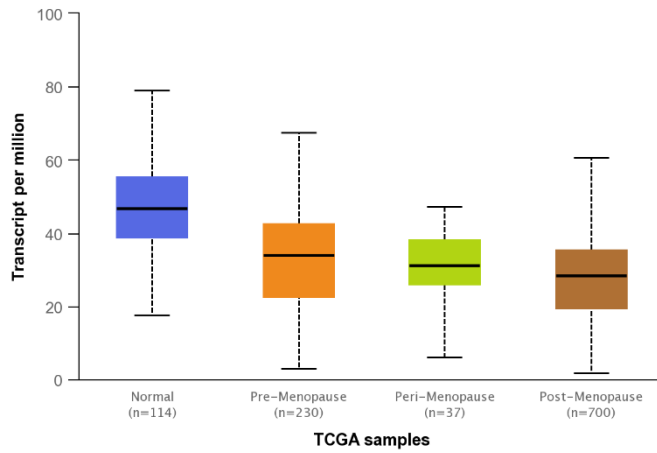
**B.**



Comparison	Statistical significance
Normal-vs-IDC	1.62447832963153E-12
Normal-vs-ILC	<1E-12
Normal-vs-Mixed	2.615800E-03
Normal-vs-Other	5.46684919555673E-12
Normal-vs-Mucinous	1.559850E-03
Normal-vs-Metaplastic	1.43700000010405E-07
Normal-vs-INOS	N/A
Normal-vs-Medullary	1.76211999999287E-05
IDC-vs-ILC	3.972400E-01
IDC-vs-Mixed	4.118300E-03
IDC-vs-Other	8.517800E-01
IDC-vs-Mucinous	2.557400E-01
IDC-vs-Metaplastic	6.502400E-03
IDC-vs-INOS	N/A
IDC-vs-Medullary	2.427900E-02
ILC-vs-Mixed	4.015800E-03
ILC-vs-Other	8.182200E-01
ILC-vs-Mucinous	2.026000E-01

C.

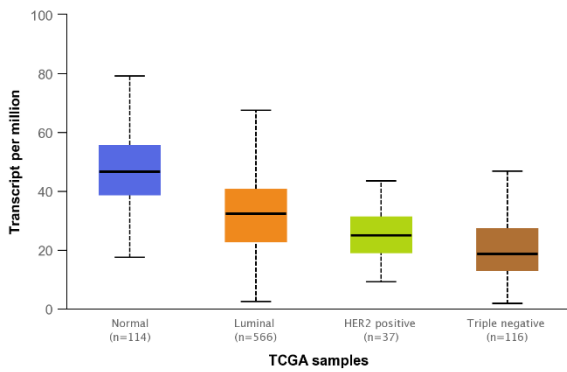
Expression of PTEN in BRCA based on Menopause status



Comparison	Statistical significance
Normal-vs-Pre-Menopause	1.62803104331033E-12
Normal-vs-Peri-Menopause	1.07570000018598E-07
Normal-vs-Post-Menopause	<1E-12
Pre-Menopause-vs-Peri-Menopause	5.897800E-01
Pre-Menopause-vs-Post-Menopause	2.645200E-04
Peri-Menopause-vs-Post-Menopause	2.352200E-01

D

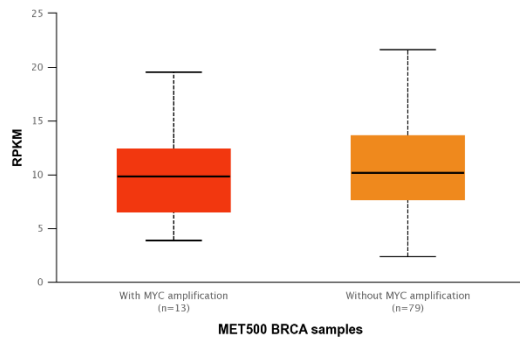
Expression of PTEN in BRCA based on breast cancer subclasses



Comparison	Statistical significance
Normal-vs-Luminal	1.62447832963153E-12
Normal-vs-HER2 Positive	5.48240342013173E-11
Normal-vs-TNBC	1.62436730732907E-12
Luminal-vs-HER2 Positive	1.976090E-02
Luminal-vs-TNBC	4.44089209850063E-16
HER2 Positive-vs-TNBC	1.192010E-02

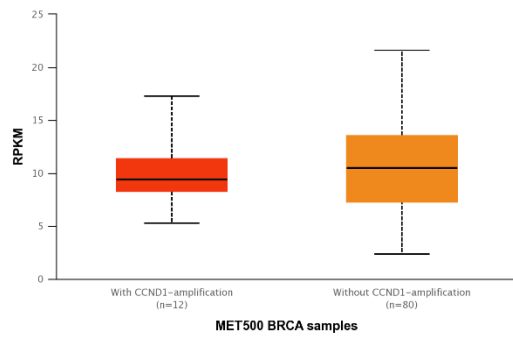
E.

Expression of PTEN in MET500 BRCA based on MYC amplification status



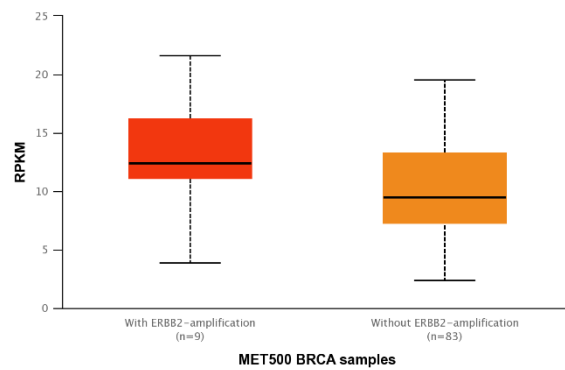
Comparison	Statistical significance
MYC-amplification(+) vs MYC-amplification(-)	4.306800E-01

Expression of PTEN in MET500 BRCA based on CCND1 amplification status



Comparison	Statistical significance
CCND1-amplification(+) vs CCND1-amplification(-)	7.323400E-01

Expression of PTEN in MET500 BRCA based on ERBB2 amplification status

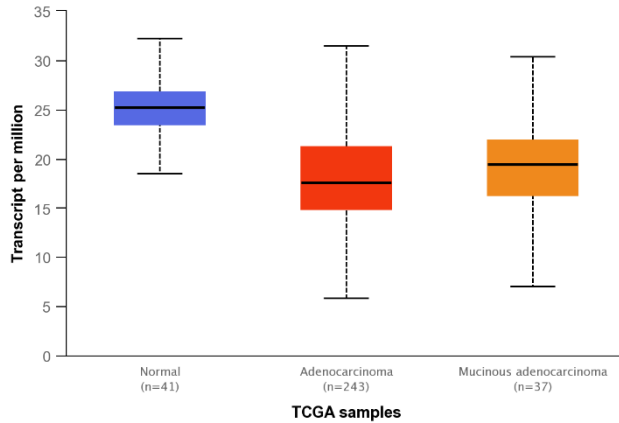


Comparison	Statistical significance
ERBB2-amplification(+) vs ERBB2-amplification(-)	1.146360E-01

### Panel 3. *PTEN* expression in digestive system tumours

A.

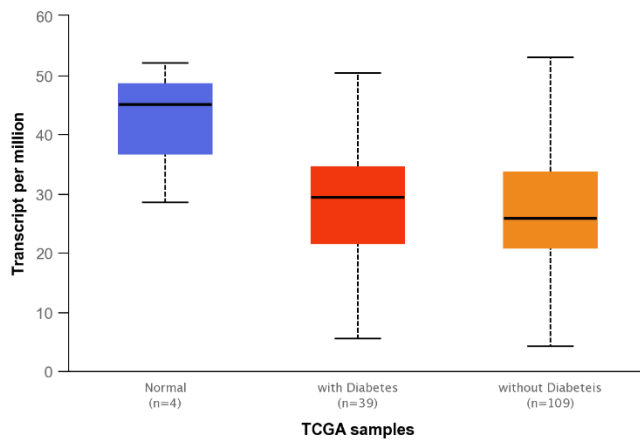
Expression of *PTEN* in COAD based on histological subtypes



Comparison	Statistical significance
Normal-vs-Adenocarcinoma	5.21804821573824E-15
Normal-vs-Mucinous-adenocarcinoma	2.417200E-04
Adenocarcinoma-vs-Mucinous-adenocarcinoma	1.057010E-01

B.

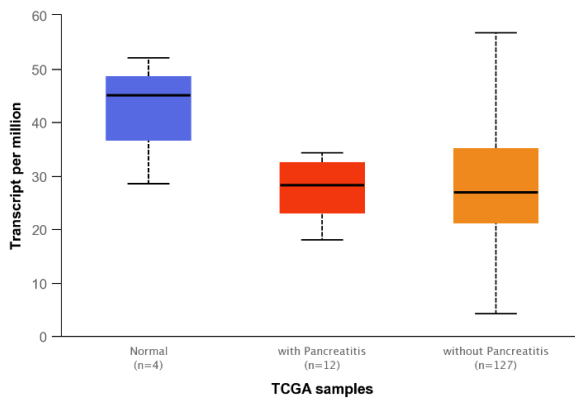
Expression of *PTEN* in PAAD based on Diabetes status



Comparison	Statistical significance
Normal-vs-Diabetic	4.723500E-02
Normal-vs-NonDiabetic	7.536300E-02
Diabetic-vs-NonDiabetic	9.665800E-01

C.

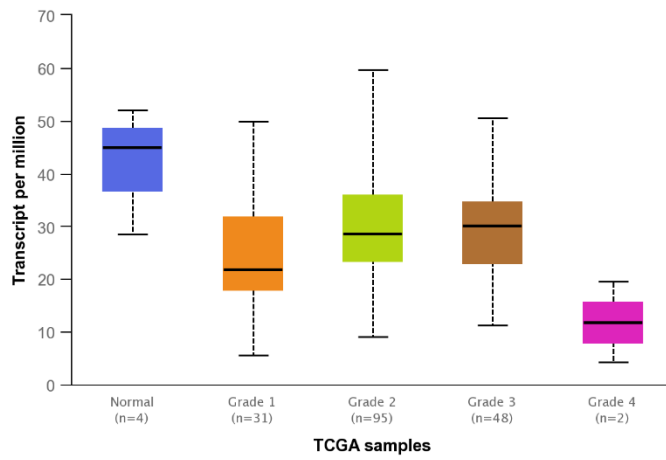
Expression of *PTEN* in PAAD based on Pancreatitis status



Comparison	Statistical significance
Normal-vs-Pancreatitis	6.936200E-03
Normal-vs-NoPancreatitis	9.007700E-02
Pancreatitis-vs-NoPancreatitis	2.587200E-01

D.

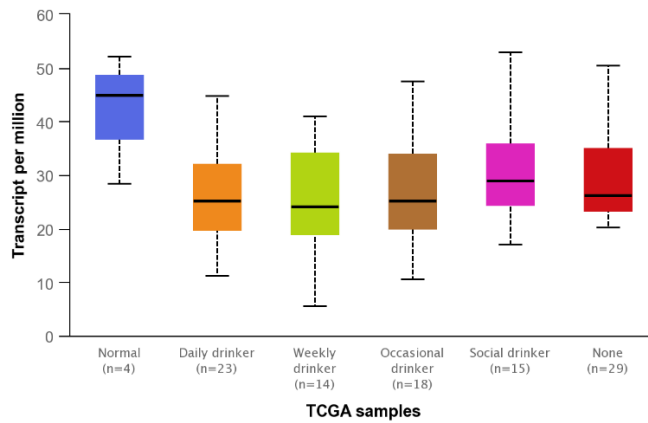
Expression of PTEN in PAAD based on tumor grade



Comparison	Statistical significance
Normal-vs-Grade 1	9.776400E-02
Normal-vs-Grade 2	2.255700E-02
Normal-vs-Grade 3	3.340500E-02
Normal-vs-Grade 4	1.000000E+00
Grade 1-vs-Grade 2	1.077520E-02
Grade 1-vs-Grade 3	3.698100E-02
Grade 1-vs-Grade 4	9.776400E-02
Grade 2-vs-Grade 3	7.987200E-01
Grade 2-vs-Grade 4	2.255700E-02
Grade 3-vs-Grade 4	3.340500E-02

E.

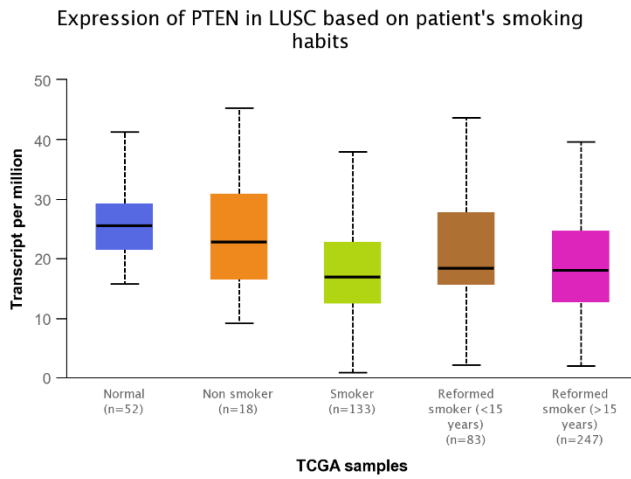
Expression of PTEN in PAAD based on patient's drinking habits



Comparison	Statistical significance
Normal-vs-Non Drinker	3.478100E-02
Normal-vs-Daily Drinker	1.138320E-02
Normal-vs-Weekly Drinker	6.411900E-02
Normal-vs-Occasional Drinker	1.875950E-01
Normal-vs-Social Drinker	2.118200E-01
Non Drinker-vs-Daily Drinker	6.827400E-01
Non Drinker-vs-Weekly Drinker	8.573400E-01
Non Drinker-vs-Occasional Drinker	1.255560E-01
Non Drinker-vs-Social Drinker	1.809780E-01
Daily Drinker-vs-Weekly Drinker	5.915400E-01
Daily Drinker-vs-Occasional Drinker	5.526500E-02
Daily Drinker-vs-Social Drinker	8.935700E-02
Weekly Drinker-vs-Occasional Drinker	2.617200E-01
Weekly Drinker-vs-Social Drinker	3.301400E-01
Occasional Drinker-vs-Social Drinker	9.464600E-01

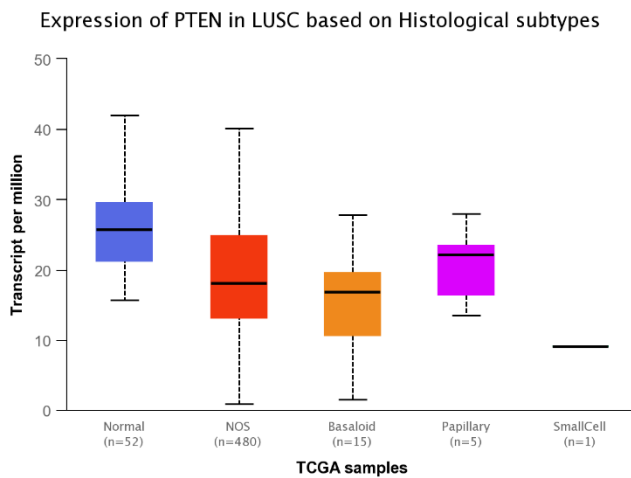
## Panel 4. *PTEN* expression in lung tumours

A.



Comparison	Statistical significance
Normal-vs-Non smoker	2.880400E-01
<b>Normal-vs-Smoker</b>	<b>7.93899945783494E-10</b>
<b>Normal-vs-Reformed smoker1</b>	<b>1.357710E-03</b>
<b>Normal-vs-Reformed smoker2</b>	<b>1.14760001501679E-09</b>
<b>Non smoker-vs-Smoker</b>	<b>1.321950E-02</b>
Non smoker-vs-Reformed smoker1	3.237000E-01
<b>Non smoker-vs-Reformed smoker2</b>	<b>2.163700E-02</b>
<b>Smoker-vs-Reformed smoker1</b>	<b>1.498170E-02</b>
Smoker-vs-Reformed smoker2	4.253600E-01
<b>Reformed smoker1-vs-Reformed smoker2</b>	<b>3.316400E-02</b>

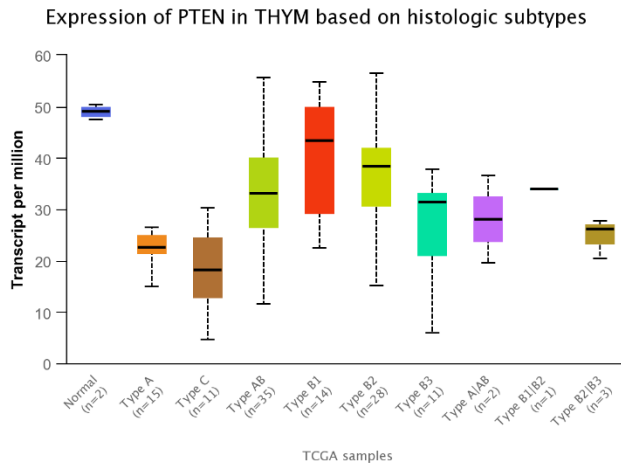
B.



Comparison	Statistical significance
<b>Normal-vs-NOS</b>	<b>3.28860000009534E-07</b>
<b>Normal-vs-Mixed</b>	<b>2.25279999999106E-05</b>
Normal-vs-ClearCell	7.039600E-01
Normal-vs-LBC-NonMucinous	1.753620E-01
<b>Normal-vs-SolidPatternPredominant</b>	<b>2.15080000000034E-05</b>
Normal-vs-Acinar	7.360000E-02
Normal-vs-LBC-Mucinous	4.171400E-01
Normal-vs-Mucinous carcinoma	1.018830E-01
<b>Normal-vs-Papillary</b>	<b>2.202300E-03</b>
Normal-vs-Mucinous	2.100000E-01
Normal-vs-Micropapillary	1.317220E-01
Normal-vs-SignetRing	N/A
NOS-vs-Mixed	9.106400E-01
NOS-vs-ClearCell	9.952300E-02
NOS-vs-LBC-NonMucinous	2.291200E-01
<b>NOS-vs-SolidPatternPredominant</b>	<b>4.890300E-02</b>
NOS-vs-Acinar	7.176400E-01
NOS-vs-LBC-Mucinous	5.361800E-01

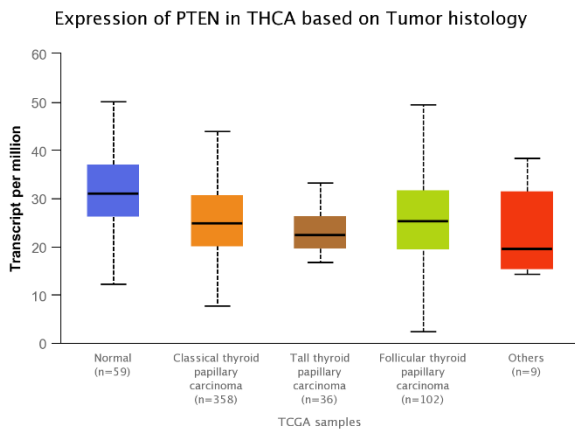
## Panel 5. PTEN expression in THYM, THCA and UCEC

A.



Comparison	Statistical significance
Normal-VS-Type A	3.009700E-04
Normal-VS-Type C	7.660200E-03
Normal-VS-Type AB	2.788500E-02
Normal-VS-Type B1	3.242800E-01
Normal-VS-Type B2	2.178400E-01
Normal-VS-Type B3	1.371620E-02
Normal-VS-Type A AB	1.374360E-01
Normal-VS-Type B1 B2	N/A
Normal-VS-Type B2 B3	4.322000E-03
Type A-VS-Type C	3.113600E-01
Type A-VS-Type AB	6.264300E-03
Type A-VS-Type B1	1.985670E-04
Type A-VS-Type B2	9.67560000000312E-05
Type A-VS-Type B3	5.941200E-01
Type A-VS-Type A AB	5.737400E-01
Type A-VS-Type B1 B2	N/A
Type A-VS-Type B2 B3	9.961000E-01

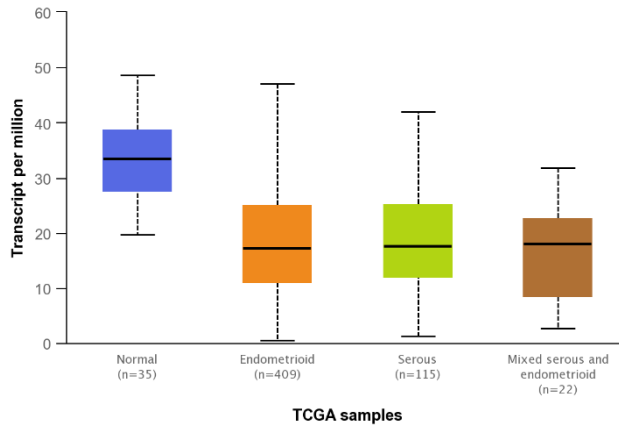
B.



Comparison	Statistical significance
Classical-VS-Tall	1.707580E-01
Classical-VS-Follicular	5.553000E-01
Classical-VS-Other	3.636200E-01
Classical-VS-Normal	1.7453000156209E-09
Tall-VS-Follicular	1.468420E-01
Tall-VS-Other	8.401200E-01
Tall-VS-Normal	5.91060000054711E-07
Follicular-VS-Other	3.472200E-01
Follicular-VS-Normal	3.97460000000072E-05
Other-VS-Normal	7.364300E-03

C.

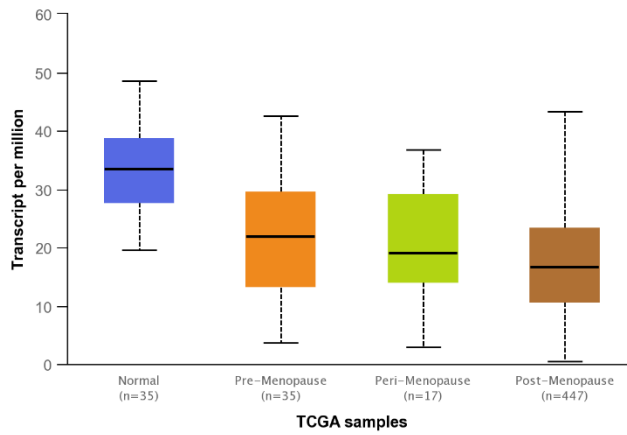
Expression of PTEN in UCEC based on Histological subtypes



Comparison	Statistical significance
Normal-vs-Endometrioid	2.31281660489913E-12
Normal-vs-Serous	1.62647673107585E-12
Normal-vs-Mixed serous and endometrioid	2.35810038162754E-10
Endometrioid -vs-Serous	3.974400E-01
Endometrioid-vs-Mixed serous and endometrioid	2.361000E-01
Serous-vs-Mixed serous and endometrioid	3.262800E-01

D.

Expression of PTEN in UCEC based on Menopause status



Comparison	Statistical significance
Normal-vs-Pre-Menopause	1.26190000004911E-06
Normal-vs-Peri-Menopause	6.59450000051187E-07
Normal-vs-Post-Menopause	1.84718906837134E-12
Pre-Menopause-vs-Peri-Menopause	4.383000E-01
Pre-Menopause-vs-Post-Menopause	1.226630E-01
Peri-Menopause-vs-Post-Menopause	8.535400E-01