ROC curve

Variable	BUN
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Disease prevalence (%)	unknown

Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	0.904
Standard Error [a]	0.0367
95% Confidence interval [b]	0.806 to 0.962
z statistic	10.995
Significance level P (Area=0.5)	<0.0001

[a] DeLong et al., 1988
[b] Binomial exact

Youden index

Youden index J	0.7576
Associated criterion	>8.9
Sensitivity	78.79
Specificity	96.97

Criterion values and coordinates of the ROC curve [Hide]

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	95% CI	-LR	95% CI
≥5.7	100.00	89.4 - 100.0	0.00	0.0 - 10.6	1.00	1.0 - 1.0		

>5.7	100.00	89.4 - 100.0	3.03	0.08 - 15.8	1.03	1.0 - 1.1	0.00	
>6.5	100.00	89.4 - 100.0	9.09	1.9 - 24.3	1.10	1.0 - 1.2	0.00	
>7.1	100.00	89.4 - 100.0	15.15	5.1 - 31.9	1.18	1.0 - 1.4	0.00	
>7.2	100.00	89.4 - 100.0	24.24	11.1 - 42.3	1.32	1.1 - 1.6	0.00	
>7.3	100.00	89.4 - 100.0	30.30	15.6 - 48.7	1.43	1.1 - 1.8	0.00	
>7.8	96.97	84.2 - 99.9	39.39	22.9 - 57.9	1.60	1.2 - 2.1	0.077	0.01 - 0.6
>7.9	93.94	79.8 - 99.3	48.48	30.8 - 66.5	1.82	1.3 - 2.6	0.13	0.03 - 0.5
>8	93.94	79.8 - 99.3	51.52	33.5 - 69.2	1.94	1.3 - 2.8	0.12	0.03 - 0.5
>8.1	90.91	75.7 - 98.1	57.58	39.2 - 74.5	2.14	1.4 - 3.2	0.16	0.05 - 0.5
>8.2	87.88	71.8 - 96.6	63.64	45.1 - 79.6	2.42	1.5 - 3.9	0.19	0.07 - 0.5
>8.3	81.82	64.5 - 93.0	72.73	54.5 - 86.7	3.00	1.7 - 5.4	0.25	0.1 - 0.5
>8.4	78.79	61.1 - 91.0	75.76	57.7 - 88.9	3.25	1.7 - 6.1	0.28	0.1 - 0.6
>8.5	78.79	61.1 - 91.0	81.82	64.5 - 93.0	4.33	2.1 - 9.1	0.26	0.1 - 0.5
>8.6	78.79	61.1 - 91.0	87.88	71.8 - 96.6	6.50	2.6 - 16.6	0.24	0.1 - 0.5
>8.7	78.79	61.1 - 91.0	93.94	79.8 - 99.3	13.00	3.4 - 50.4	0.23	0.1 - 0.4
>8.9	78.79	61.1 - 91.0	96.97	84.2 - 99.9	26.00	3.7 - 180.6	0.22	0.1 - 0.4
>9	75.76	57.7 - 88.9	96.97	84.2 - 99.9	25.00	3.6 - 173.9	0.25	0.1 - 0.5
>9.1	69.70	51.3 - 84.4	96.97	84.2 - 99.9	23.00	3.3 - 160.6	0.31	0.2 - 0.5
>9.2	63.64	45.1 - 79.6	96.97	84.2 - 99.9	21.00	3.0 - 147.2	0.38	0.2 - 0.6
>9.3	57.58	39.2 - 74.5	96.97	84.2 - 99.9	19.00	2.7 - 133.8	0.44	0.3 - 0.7
>9.4	54.55	36.4 - 71.9	100.00	89.4 - 100.0			0.45	0.3 - 0.7
>9.5	48.48	30.8 - 66.5	100.00	89.4 - 100.0			0.52	0.4 - 0.7
>9.7	42.42	25.5 - 60.8	100.00	89.4 - 100.0			0.58	0.4 - 0.8
>9.8	39.39	22.9 - 57.9	100.00	89.4 - 100.0			0.61	0.5 - 0.8
>10.1	36.36	20.4 - 54.9	100.00	89.4 - 100.0			0.64	0.5 - 0.8
>10.2	33.33	18.0 - 51.8	100.00	89.4 - 100.0			0.67	0.5 - 0.8
>11.7	30.30	15.6 - 48.7	100.00	89.4 - 100.0			0.70	0.6 - 0.9
>12.2	27.27	13.3 - 45.5	100.00	89.4 - 100.0			0.73	0.6 - 0.9
>13.8	24.24	11.1 - 42.3	100.00	89.4 - 100.0			0.76	0.6 - 0.9
>14.5	21.21	9.0 - 38.9	100.00	89.4 - 100.0			0.79	0.7 - 0.9

>15.2	18.18	7.0 - 35.5	100.00	89.4 - 100.0			0.82	0.7 - 1.0
>17.3	15.15	5.1 - 31.9	100.00	89.4 - 100.0			0.85	0.7 - 1.0
>18.9	12.12	3.4 - 28.2	100.00	89.4 - 100.0			0.88	0.8 - 1.0
>19.7	9.09	1.9 - 24.3	100.00	89.4 - 100.0			0.91	0.8 - 1.0
>21.1	6.06	0.7 - 20.2	100.00	89.4 - 100.0			0.94	0.9 - 1.0
>21.2	3.03	0.08 - 15.8	100.00	89.4 - 100.0			0.97	0.9 - 1.0
>21.3	0.00	0.0 - 10.6	100.00	89.4 - 100.0			1.00	1.0 - 1.0

ROC curve

Variable	Cr
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Disease prevalence (%)	unknown

Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	0.717
Standard Error [a]	0.0678
95% Confidence interval [b]	0.592 to 0.821
z statistic	3.198
Significance level P (Area=0.5)	0.0014

[a] DeLong et al., 1988
[b] Binomial exact

Youden index

Youden index J	0.5455
Associated criterion	>85.9
Sensitivity	54.55
Specificity	100.00

Criterion values and coordinates of the ROC curve [Hide]

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	95% CI	-LR	95% CI
≥56.3	100.00	89.4 - 100.0	0.00	0.0 - 10.6	1.00	1.0 - 1.0		
>56.3	100.00	89.4 - 100.0	3.03	0.08 - 15.8	1.03	1.0 - 1.1	0.00	
>67.9	100.00	89.4 - 100.0	6.06	0.7 - 20.2	1.06	1.0 - 1.2	0.00	
>68.2	96.97	84.2 - 99.9	6.06	0.7 - 20.2	1.03	0.9 - 1.1	0.50	0.05 - 5.3
>68.5	96.97	84.2 - 99.9	9.09	1.9 - 24.3	1.07	0.9 - 1.2	0.33	0.04 - 3.0
>69.2	93.94	79.8 - 99.3	12.12	3.4 - 28.2	1.07	0.9 - 1.2	0.50	0.10 - 2.5
>69.3	90.91	75.7 - 98.1	12.12	3.4 - 28.2	1.03	0.9 - 1.2	0.75	0.2 - 3.1
>72.3	87.88	71.8 - 96.6	12.12	3.4 - 28.2	1.00	0.8 - 1.2	1.00	0.3 - 3.7
>73.2	81.82	64.5 - 93.0	15.15	5.1 - 31.9	0.96	0.8 - 1.2	1.20	0.4 - 3.5
>75.3	81.82	64.5 - 93.0	18.18	7.0 - 35.5	1.00	0.8 - 1.3	1.00	0.4 - 2.8
>75.4	81.82	64.5 - 93.0	24.24	11.1 - 42.3	1.08	0.8 - 1.4	0.75	0.3 - 1.9
>76	78.79	61.1 - 91.0	24.24	11.1 - 42.3	1.04	0.8 - 1.4	0.88	0.4 - 2.1
>76.9	78.79	61.1 - 91.0	27.27	13.3 - 45.5	1.08	0.8 - 1.4	0.78	0.3 - 1.8
>77.3	75.76	57.7 - 88.9	30.30	15.6 - 48.7	1.09	0.8 - 1.5	0.80	0.4 - 1.8
>78.2	75.76	57.7 - 88.9	36.36	20.4 - 54.9	1.19	0.9 - 1.6	0.67	0.3 - 1.4
>78.3	75.76	57.7 - 88.9	48.48	30.8 - 66.5	1.47	1.0 - 2.2	0.50	0.2 - 1.0
>78.5	75.76	57.7 - 88.9	51.52	33.5 - 69.2	1.56	1.0 - 2.3	0.47	0.2 - 0.9
>79.2	75.76	57.7 - 88.9	54.55	36.4 - 71.9	1.67	1.1 - 2.5	0.44	0.2 - 0.9
>79.3	69.70	51.3 - 84.4	54.55	36.4 - 71.9	1.53	1.0 - 2.4	0.56	0.3 - 1.0
>79.8	66.67	48.2 - 82.0	54.55	36.4 - 71.9	1.47	0.9 - 2.3	0.61	0.3 - 1.1
>80.3	60.61	42.1 - 77.1	54.55	36.4 - 71.9	1.33	0.8 - 2.1	0.72	0.4 - 1.2
>80.9	60.61	42.1 - 77.1	57.58	39.2 - 74.5	1.43	0.9 - 2.3	0.68	0.4 - 1.1

>81.2	60.61	42.1 - 77.1	60.61	42.1 - 77.1	1.54	0.9 - 2.5	0.65	0.4 - 1.1
>81.3	60.61	42.1 - 77.1	69.70	51.3 - 84.4	2.00	1.1 - 3.6	0.57	0.3 - 0.9
>82.1	60.61	42.1 - 77.1	75.76	57.7 - 88.9	2.50	1.3 - 4.9	0.52	0.3 - 0.8
>82.3	57.58	39.2 - 74.5	78.79	61.1 - 91.0	2.71	1.3 - 5.6	0.54	0.3 - 0.8
>82.5	57.58	39.2 - 74.5	81.82	64.5 - 93.0	3.17	1.5 - 6.9	0.52	0.3 - 0.8
>83.1	57.58	39.2 - 74.5	84.85	68.1 - 94.9	3.80	1.6 - 9.0	0.50	0.3 - 0.8
>83.7	57.58	39.2 - 74.5	87.88	71.8 - 96.6	4.75	1.8 - 12.5	0.48	0.3 - 0.7
>84.3	57.58	39.2 - 74.5	90.91	75.7 - 98.1	6.33	2.1 - 19.4	0.47	0.3 - 0.7
>84.9	57.58	39.2 - 74.5	93.94	79.8 - 99.3	9.50	2.4 - 37.6	0.45	0.3 - 0.7
>85	54.55	36.4 - 71.9	93.94	79.8 - 99.3	9.00	2.3 - 35.7	0.48	0.3 - 0.7
>85.3	54.55	36.4 - 71.9	96.97	84.2 - 99.9	18.00	2.5 - 127.2	0.47	0.3 - 0.7
>85.9	54.55	36.4 - 71.9	100.00	89.4 - 100.0			0.45	0.3 - 0.7
>86.3	51.52	33.5 - 69.2	100.00	89.4 - 100.0			0.48	0.3 - 0.7
>87.6	48.48	30.8 - 66.5	100.00	89.4 - 100.0			0.52	0.4 - 0.7
>92.7	45.45	28.1 - 63.6	100.00	89.4 - 100.0			0.55	0.4 - 0.7
>115.3	42.42	25.5 - 60.8	100.00	89.4 - 100.0			0.58	0.4 - 0.8
>130.8	39.39	22.9 - 57.9	100.00	89.4 - 100.0			0.61	0.5 - 0.8
>138.2	36.36	20.4 - 54.9	100.00	89.4 - 100.0			0.64	0.5 - 0.8
>204.3	33.33	18.0 - 51.8	100.00	89.4 - 100.0			0.67	0.5 - 0.8
>212.4	30.30	15.6 - 48.7	100.00	89.4 - 100.0			0.70	0.6 - 0.9
>216.9	27.27	13.3 - 45.5	100.00	89.4 - 100.0			0.73	0.6 - 0.9
>234.7	24.24	11.1 - 42.3	100.00	89.4 - 100.0			0.76	0.6 - 0.9
>253.4	21.21	9.0 - 38.9	100.00	89.4 - 100.0			0.79	0.7 - 0.9
>281.6	18.18	7.0 - 35.5	100.00	89.4 - 100.0			0.82	0.7 - 1.0
>316.8	15.15	5.1 - 31.9	100.00	89.4 - 100.0			0.85	0.7 - 1.0
>318.3	12.12	3.4 - 28.2	100.00	89.4 - 100.0			0.88	0.8 - 1.0
>342.1	9.09	1.9 - 24.3	100.00	89.4 - 100.0			0.91	0.8 - 1.0
>378.4	6.06	0.7 - 20.2	100.00	89.4 - 100.0			0.94	0.9 - 1.0
>382.4	3.03	0.08 - 15.8	100.00	89.4 - 100.0			0.97	0.9 - 1.0
>412.8	0.00	0.0 - 10.6	100.00	89.4 - 100.0			1.00	1.0 - 1.0

Comparison of ROC curves

Variable 1	Cr
Variable 2	BUN
Variable 3	sNGAL
Variable 4	uNGAL
Variable 5	UNCR
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Variable	AUC	SE [a]	95% CI [b]
Cr	0.717	0.0678	0.592 to 0.821
BUN	0.904	0.0367	0.806 to 0.962
sNGAL	0.992	0.00654	0.931 to 1.000
uNGAL	0.999	0.00130	0.944 to 1.000
UNCR	1.000	0.000	0.946 to 1.000

[a] DeLong et al., 1988
[b] Binomial exact

Pairwise comparison of ROC curves

Cr ~ BUN	
Difference between areas	0.187
Standard Error [a]	0.0582
95% Confidence Interval	0.0727 to 0.301
z statistic	3.209

Significance level	P = 0.0013
Cr ~ sNGAL	
Difference between areas	0.275
Standard Error [a]	0.0660
95% Confidence Interval	0.146 to 0.405
z statistic	4.172
Significance level	P < 0.0001
Cr ~ uNGAL	
Difference between areas	0.282
Standard Error [a]	0.0676
95% Confidence Interval	0.150 to 0.415
z statistic	4.174
Significance level	P < 0.0001
Cr ~ UNCR	
Difference between areas	0.283
Standard Error [a]	0.0678
95% Confidence Interval	0.150 to 0.416
z statistic	4.180
Significance level	P < 0.0001
BUN ~ sNGAL	
Difference between areas	0.0886
Standard Error [a]	0.0366
95% Confidence Interval	0.0170 to 0.160
z statistic	2.424
Significance level	P = 0.0153
BUN ~ uNGAL	
Difference between areas	0.0955
Standard Error [a]	0.0363
95% Confidence Interval	0.0243 to 0.167

z statistic	2.629
Significance level	P = 0.0086
BUN ~ UNCR	
Difference between areas	0.0964
Standard Error [a]	0.0367
95% Confidence Interval	0.0245 to 0.168
z statistic	2.627
Significance level	P = 0.0086
sNGAL ~ uNGAL	
Difference between areas	0.00689
Standard Error [a]	0.00633
95% Confidence Interval	-0.00552 to 0.0193
z statistic	1.088
Significance level	P = 0.2767
sNGAL ~ UNCR	
Difference between areas	0.00781
Standard Error [a]	0.00654
95% Confidence Interval	-0.00500 to 0.0206
z statistic	1.194
Significance level	P = 0.2324
uNGAL ~ UNCR	
Difference between areas	0.000918
Standard Error [a]	0.00130
95% Confidence Interval	-0.00163 to 0.00346
z statistic	0.707
Significance level	P = 0.4795

[a] DeLong et al., 1988

ROC curve

Variable	uNGAL
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Disease prevalence (%)	unknown

Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	0.999
Standard Error [a]	0.00130
95% Confidence interval [b]	0.944 to 1.000
z statistic	384.313
Significance level P (Area=0.5)	<0.0001

[a] DeLong et al., 1988
[b] Binomial exact

Youden index

Youden index J	0.9697
Associated criterion	>5728
Sensitivity	100.00
Specificity	96.97

Criterion values and coordinates of the ROC curve [Hide]

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	95% CI	-LR	95% CI
≥2518	100.00	89.4 - 100.0	0.00	0.0 - 10.6	1.00	1.0 - 1.0		
>2518	100.00	89.4 - 100.0	3.03	0.08 - 15.8	1.03	1.0 - 1.1	0.00	
>2568	100.00	89.4 - 100.0	6.06	0.7 - 20.2	1.06	1.0 - 1.2	0.00	

>2578	100.00	89.4 - 100.0	9.09	1.9 - 24.3	1.10	1.0 - 1.2	0.00	
>2616	100.00	89.4 - 100.0	12.12	3.4 - 28.2	1.14	1.0 - 1.3	0.00	
>2664	100.00	89.4 - 100.0	15.15	5.1 - 31.9	1.18	1.0 - 1.4	0.00	
>2667	100.00	89.4 - 100.0	18.18	7.0 - 35.5	1.22	1.0 - 1.4	0.00	
>2763	100.00	89.4 - 100.0	21.21	9.0 - 38.9	1.27	1.1 - 1.5	0.00	
>2775	100.00	89.4 - 100.0	24.24	11.1 - 42.3	1.32	1.1 - 1.6	0.00	
>2778	100.00	89.4 - 100.0	27.27	13.3 - 45.5	1.37	1.1 - 1.7	0.00	
>2855	100.00	89.4 - 100.0	30.30	15.6 - 48.7	1.43	1.1 - 1.8	0.00	
>2919	100.00	89.4 - 100.0	36.36	20.4 - 54.9	1.57	1.2 - 2.0	0.00	
>2981	100.00	89.4 - 100.0	39.39	22.9 - 57.9	1.65	1.3 - 2.2	0.00	
>3009	100.00	89.4 - 100.0	42.42	25.5 - 60.8	1.74	1.3 - 2.3	0.00	
>3018	100.00	89.4 - 100.0	45.45	28.1 - 63.6	1.83	1.3 - 2.5	0.00	
>3023	100.00	89.4 - 100.0	48.48	30.8 - 66.5	1.94	1.4 - 2.7	0.00	
>3137	100.00	89.4 - 100.0	51.52	33.5 - 69.2	2.06	1.5 - 2.9	0.00	
>3155	100.00	89.4 - 100.0	54.55	36.4 - 71.9	2.20	1.5 - 3.2	0.00	
>3764	100.00	89.4 - 100.0	57.58	39.2 - 74.5	2.36	1.6 - 3.5	0.00	
>3782	100.00	89.4 - 100.0	60.61	42.1 - 77.1	2.54	1.7 - 3.9	0.00	
>3791	100.00	89.4 - 100.0	63.64	45.1 - 79.6	2.75	1.8 - 4.3	0.00	
>3981	100.00	89.4 - 100.0	66.67	48.2 - 82.0	3.00	1.9 - 4.9	0.00	
>4125	100.00	89.4 - 100.0	69.70	51.3 - 84.4	3.30	2.0 - 5.5	0.00	
>4323	100.00	89.4 - 100.0	72.73	54.5 - 86.7	3.67	2.1 - 6.4	0.00	
>4521	100.00	89.4 - 100.0	75.76	57.7 - 88.9	4.12	2.3 - 7.5	0.00	
>4572	100.00	89.4 - 100.0	78.79	61.1 - 91.0	4.71	2.4 - 9.1	0.00	
>4591	100.00	89.4 - 100.0	81.82	64.5 - 93.0	5.50	2.7 - 11.3	0.00	
>4600	100.00	89.4 - 100.0	84.85	68.1 - 94.9	6.60	2.9 - 14.8	0.00	
>4673	100.00	89.4 - 100.0	87.88	71.8 - 96.6	8.25	3.3 - 20.7	0.00	
>4724	100.00	89.4 - 100.0	90.91	75.7 - 98.1	11.00	3.7 - 32.4	0.00	
>5719	100.00	89.4 - 100.0	93.94	79.8 - 99.3	16.50	4.3 - 63.2	0.00	
>5728	100.00	89.4 - 100.0	96.97	84.2 - 99.9	33.00	4.8 - 227.4	0.00	
>6172	96.97	84.2 - 99.9	96.97	84.2 - 99.9	32.00	4.6 - 220.7	0.031	0.005 - 0.2

>6773	96.97	84.2 - 99.9	100.00	89.4 - 100.0			0.030	0.004 - 0.2
>7337	93.94	79.8 - 99.3	100.00	89.4 - 100.0			0.061	0.02 - 0.2
>7381	90.91	75.7 - 98.1	100.00	89.4 - 100.0			0.091	0.03 - 0.3
>8145	87.88	71.8 - 96.6	100.00	89.4 - 100.0			0.12	0.05 - 0.3
>8289	84.85	68.1 - 94.9	100.00	89.4 - 100.0			0.15	0.07 - 0.3
>8772	81.82	64.5 - 93.0	100.00	89.4 - 100.0			0.18	0.09 - 0.4
>9063	78.79	61.1 - 91.0	100.00	89.4 - 100.0			0.21	0.1 - 0.4
>9681	75.76	57.7 - 88.9	100.00	89.4 - 100.0			0.24	0.1 - 0.4
>9778	72.73	54.5 - 86.7	100.00	89.4 - 100.0			0.27	0.2 - 0.5
>17800	69.70	51.3 - 84.4	100.00	89.4 - 100.0			0.30	0.2 - 0.5
>17823	66.67	48.2 - 82.0	100.00	89.4 - 100.0			0.33	0.2 - 0.5
>19735	63.64	45.1 - 79.6	100.00	89.4 - 100.0			0.36	0.2 - 0.6
>20919	60.61	42.1 - 77.1	100.00	89.4 - 100.0			0.39	0.3 - 0.6
>23164	57.58	39.2 - 74.5	100.00	89.4 - 100.0			0.42	0.3 - 0.6
>23821	54.55	36.4 - 71.9	100.00	89.4 - 100.0			0.45	0.3 - 0.7
>25446	51.52	33.5 - 69.2	100.00	89.4 - 100.0			0.48	0.3 - 0.7
>25464	48.48	30.8 - 66.5	100.00	89.4 - 100.0			0.52	0.4 - 0.7
>25773	45.45	28.1 - 63.6	100.00	89.4 - 100.0			0.55	0.4 - 0.7
>26728	42.42	25.5 - 60.8	100.00	89.4 - 100.0			0.58	0.4 - 0.8
>26778	39.39	22.9 - 57.9	100.00	89.4 - 100.0			0.61	0.5 - 0.8
>27373	36.36	20.4 - 54.9	100.00	89.4 - 100.0			0.64	0.5 - 0.8
>27882	33.33	18.0 - 51.8	100.00	89.4 - 100.0			0.67	0.5 - 0.8
>27891	30.30	15.6 - 48.7	100.00	89.4 - 100.0			0.70	0.6 - 0.9
>28719	27.27	13.3 - 45.5	100.00	89.4 - 100.0			0.73	0.6 - 0.9
>29291	24.24	11.1 - 42.3	100.00	89.4 - 100.0			0.76	0.6 - 0.9
>30152	21.21	9.0 - 38.9	100.00	89.4 - 100.0			0.79	0.7 - 0.9
>30162	18.18	7.0 - 35.5	100.00	89.4 - 100.0			0.82	0.7 - 1.0
>31145	15.15	5.1 - 31.9	100.00	89.4 - 100.0			0.85	0.7 - 1.0
>31291	12.12	3.4 - 28.2	100.00	89.4 - 100.0			0.88	0.8 - 1.0
>32575	9.09	1.9 - 24.3	100.00	89.4 - 100.0			0.91	0.8 - 1.0

>33773	6.06	0.7 - 20.2	100.00	89.4 - 100.0			0.94	0.9 - 1.0
>35264	3.03	0.08 - 15.8	100.00	89.4 - 100.0			0.97	0.9 - 1.0
>38228	0.00	0.0 - 10.6	100.00	89.4 - 100.0			1.00	1.0 - 1.0

ROC curve

Variable	UNCR
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Disease prevalence (%)	unknown

Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	1.000
Standard Error [a]	0.000
95% Confidence interval [b]	0.946 to 1.000
Significance level P (Area=0.5)	<0.0001

[a] DeLong et al., 1988
[b] Binomial exact

Youden index

Youden index J	1.0000
Associated criterion	>6701.115486
Sensitivity	100.00
Specificity	100.00

Criterion values and coordinates of the ROC curve [Hide]

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	95% CI	-LR	95% CI
≥2745.072388	100.00	89.4 - 100.0	0.00	0.0 - 10.6	1.00	1.0 - 1.0		
>2745.072388	100.00	89.4 - 100.0	3.03	0.08 - 15.8	1.03	1.0 - 1.1	0.00	
>2876.144412	100.00	89.4 - 100.0	6.06	0.7 - 20.2	1.06	1.0 - 1.2	0.00	
>2903.311097	100.00	89.4 - 100.0	9.09	1.9 - 24.3	1.10	1.0 - 1.2	0.00	
>3126.486444	100.00	89.4 - 100.0	12.12	3.4 - 28.2	1.14	1.0 - 1.3	0.00	
>3148.817667	100.00	89.4 - 100.0	15.15	5.1 - 31.9	1.18	1.0 - 1.4	0.00	
>3184.676827	100.00	89.4 - 100.0	18.18	7.0 - 35.5	1.22	1.0 - 1.4	0.00	
>3224.834237	100.00	89.4 - 100.0	21.21	9.0 - 38.9	1.27	1.1 - 1.5	0.00	
>3248.559507	100.00	89.4 - 100.0	24.24	11.1 - 42.3	1.32	1.1 - 1.6	0.00	
>3257.52394	100.00	89.4 - 100.0	27.27	13.3 - 45.5	1.37	1.1 - 1.7	0.00	
>3302.739205	100.00	89.4 - 100.0	30.30	15.6 - 48.7	1.43	1.1 - 1.8	0.00	
>3364.098448	100.00	89.4 - 100.0	33.33	18.0 - 51.8	1.50	1.2 - 1.9	0.00	
>3369.671839	100.00	89.4 - 100.0	36.36	20.4 - 54.9	1.57	1.2 - 2.0	0.00	
>3438.324538	100.00	89.4 - 100.0	39.39	22.9 - 57.9	1.65	1.3 - 2.2	0.00	
>3439.957929	100.00	89.4 - 100.0	42.42	25.5 - 60.8	1.74	1.3 - 2.3	0.00	
>3449.21932	100.00	89.4 - 100.0	45.45	28.1 - 63.6	1.83	1.3 - 2.5	0.00	
>3519.207255	100.00	89.4 - 100.0	48.48	30.8 - 66.5	1.94	1.4 - 2.7	0.00	
>3549.927576	100.00	89.4 - 100.0	51.52	33.5 - 69.2	2.06	1.5 - 2.9	0.00	
>3606.513744	100.00	89.4 - 100.0	54.55	36.4 - 71.9	2.20	1.5 - 3.2	0.00	
>3634.937238	100.00	89.4 - 100.0	57.58	39.2 - 74.5	2.36	1.6 - 3.5	0.00	
>3711.427005	100.00	89.4 - 100.0	60.61	42.1 - 77.1	2.54	1.7 - 3.9	0.00	
>3765.885188	100.00	89.4 - 100.0	63.64	45.1 - 79.6	2.75	1.8 - 4.3	0.00	
>3771.845439	100.00	89.4 - 100.0	66.67	48.2 - 82.0	3.00	1.9 - 4.9	0.00	
>3910.660009	100.00	89.4 - 100.0	69.70	51.3 - 84.4	3.30	2.0 - 5.5	0.00	
>4201.733564	100.00	89.4 - 100.0	72.73	54.5 - 86.7	3.67	2.1 - 6.4	0.00	
>4373.355518	100.00	89.4 - 100.0	75.76	57.7 - 88.9	4.12	2.3 - 7.5	0.00	

>4726.681231	100.00	89.4 - 100.0	78.79	61.1 - 91.0	4.71	2.4 - 9.1	0.00	
>4816.812154	100.00	89.4 - 100.0	81.82	64.5 - 93.0	5.50	2.7 - 11.3	0.00	
>5147.721131	100.00	89.4 - 100.0	84.85	68.1 - 94.9	6.60	2.9 - 14.8	0.00	
>5320.133235	100.00	89.4 - 100.0	87.88	71.8 - 96.6	8.25	3.3 - 20.7	0.00	
>5345.826544	100.00	89.4 - 100.0	90.91	75.7 - 98.1	11.00	3.7 - 32.4	0.00	
>5752.852322	100.00	89.4 - 100.0	93.94	79.8 - 99.3	16.50	4.3 - 63.2	0.00	
>6177.039253	100.00	89.4 - 100.0	96.97	84.2 - 99.9	33.00	4.8 - 227.4	0.00	
>6701.115486	100.00	89.4 - 100.0	100.00	89.4 - 100.0			0.00	
>7559.278856	96.97	84.2 - 99.9	100.00	89.4 - 100.0			0.030	0.004 - 0.2
>8320.93254	93.94	79.8 - 99.3	100.00	89.4 - 100.0			0.061	0.02 - 0.2
>8330.265096	90.91	75.7 - 98.1	100.00	89.4 - 100.0			0.091	0.03 - 0.3
>9636.287625	87.88	71.8 - 96.6	100.00	89.4 - 100.0			0.12	0.05 - 0.3
>9662.08386	84.85	68.1 - 94.9	100.00	89.4 - 100.0			0.15	0.07 - 0.3
>9951.896896	81.82	64.5 - 93.0	100.00	89.4 - 100.0			0.18	0.09 - 0.4
>10178.57143	78.79	61.1 - 91.0	100.00	89.4 - 100.0			0.21	0.1 - 0.4
>11956.20817	75.76	57.7 - 88.9	100.00	89.4 - 100.0			0.24	0.1 - 0.4
>12383.48531	72.73	54.5 - 86.7	100.00	89.4 - 100.0			0.27	0.2 - 0.5
>17971.58116	69.70	51.3 - 84.4	100.00	89.4 - 100.0			0.30	0.2 - 0.5
>18130.55366	66.67	48.2 - 82.0	100.00	89.4 - 100.0			0.33	0.2 - 0.5
>18329.4196	63.64	45.1 - 79.6	100.00	89.4 - 100.0			0.36	0.2 - 0.6
>18379.40232	60.61	42.1 - 77.1	100.00	89.4 - 100.0			0.39	0.3 - 0.6
>18576.97699	57.58	39.2 - 74.5	100.00	89.4 - 100.0			0.42	0.3 - 0.6
>19167.88031	54.55	36.4 - 71.9	100.00	89.4 - 100.0			0.45	0.3 - 0.7
>19349.4006	51.52	33.5 - 69.2	100.00	89.4 - 100.0			0.48	0.3 - 0.7
>19481.04956	48.48	30.8 - 66.5	100.00	89.4 - 100.0			0.52	0.4 - 0.7
>19484.8494	45.45	28.1 - 63.6	100.00	89.4 - 100.0			0.55	0.4 - 0.7
>19613.55912	42.42	25.5 - 60.8	100.00	89.4 - 100.0			0.58	0.4 - 0.8
>19656.8854	39.39	22.9 - 57.9	100.00	89.4 - 100.0			0.61	0.5 - 0.8
>19678.49894	36.36	20.4 - 54.9	100.00	89.4 - 100.0			0.64	0.5 - 0.8
>19913.32349	33.33	18.0 - 51.8	100.00	89.4 - 100.0			0.67	0.5 - 0.8

>20165.16384	30.30	15.6 - 48.7	100.00	89.4 - 100.0			0.70	0.6 - 0.9
>20289.03248	27.27	13.3 - 45.5	100.00	89.4 - 100.0			0.73	0.6 - 0.9
>20683.83805	24.24	11.1 - 42.3	100.00	89.4 - 100.0			0.76	0.6 - 0.9
>21209.23431	21.21	9.0 - 38.9	100.00	89.4 - 100.0			0.79	0.7 - 0.9
>22132.67435	18.18	7.0 - 35.5	100.00	89.4 - 100.0			0.82	0.7 - 1.0
>22321.42857	15.15	5.1 - 31.9	100.00	89.4 - 100.0			0.85	0.7 - 1.0
>22487.25587	12.12	3.4 - 28.2	100.00	89.4 - 100.0			0.88	0.8 - 1.0
>23305.488	9.09	1.9 - 24.3	100.00	89.4 - 100.0			0.91	0.8 - 1.0
>24065.81348	6.06	0.7 - 20.2	100.00	89.4 - 100.0			0.94	0.9 - 1.0
>24575.36362	3.03	0.08 - 15.8	100.00	89.4 - 100.0			0.97	0.9 - 1.0
>24751.37263	0.00	0.0 - 10.6	100.00	89.4 - 100.0			1.00	1.0 - 1.0

ROC curve

Variable	sNGAL
Classification variable	pathology

Sample size	66
Positive group [a]	33 (50.00%)
Negative group [b]	33 (50.00%)

[a] pathology = 1
[b] pathology = 0

Disease prevalence (%)	50.0

Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	0.992
Standard Error [a]	0.00654
95% Confidence interval [b]	0.931 to 1.000
z statistic	75.309
Significance level P (Area=0.5)	<0.0001

[a] DeLong et al., 1988
[b] Binomial exact

Youden index

Youden index J	0.9394
Associated criterion	>14642
Sensitivity	93.94
Specificity	100.00

Optimal criterion

Optimal criterion [a]	>14642
Sensitivity	93.94
Specificity	100.00

[a] Taking into account disease prevalence (50.0%) and estimated costs:
cost False Positive: 1; cost False Negative: 2
cost True Positive: 0; cost True Negative: 0

Criterion values and coordinates of the ROC curve [Hide]

Criterion	Sensitivity	95% CI	Specificity	95% CI	+LR	95% CI	-LR	95% CI	+PV	95% CI	-PV	95% CI	Cost
≥6000	100.00	89.4 - 100.0	0.00	0.0 - 10.6	1.00	1.0 - 1.0			50.0	50.0 - 50.0			0.500
>6000	100.00	89.4 - 100.0	3.03	0.08 - 15.8	1.03	1.0 - 1.1	0.00		50.8	49.3 - 52.3	100.0		0.485
>6202	100.00	89.4 - 100.0	6.06	0.7 - 20.2	1.06	1.0 - 1.2	0.00		51.6	49.4 - 53.7	100.0		0.470
>6438	100.00	89.4 - 100.0	12.12	3.4 - 28.2	1.14	1.0 - 1.3	0.00		53.2	50.1 - 56.4	100.0		0.439
>6574	100.00	89.4 - 100.0	15.15	5.1 - 31.9	1.18	1.0 - 1.4	0.00		54.1	50.5 - 57.7	100.0		0.424
>6646	100.00	89.4 - 100.0	18.18	7.0 - 35.5	1.22	1.0 - 1.4	0.00		55.0	51.0 - 58.9	100.0		0.409
>6852	100.00	89.4 - 100.0	21.21	9.0 - 38.9	1.27	1.1 - 1.5	0.00		55.9	51.5 - 60.2	100.0		0.394
>7054	100.00	89.4 - 100.0	24.24	11.1 - 42.3	1.32	1.1 - 1.6	0.00		56.9	52.1 - 61.6	100.0		0.379
>7252	100.00	89.4 - 100.0	27.27	13.3 - 45.5	1.37	1.1 - 1.7	0.00		57.9	52.7 - 62.9	100.0		0.364
>7566	100.00	89.4 - 100.0	30.30	15.6 - 48.7	1.43	1.1 - 1.8	0.00		58.9	53.4 - 64.2	100.0		0.348
>7876	100.00	89.4 - 100.0	33.33	18.0 - 51.8	1.50	1.2 - 1.9	0.00		60.0	54.1 - 65.6	100.0		0.333

>8434	100.00	89.4 - 100.0	36.36	20.4 - 54.9	1.57	1.2 - 2.0	0.00		61.1	54.8 - 67.0	100.0		0.318
>9046	100.00	89.4 - 100.0	39.39	22.9 - 57.9	1.65	1.3 - 2.2	0.00		62.3	55.6 - 68.5	100.0		0.303
>9156	100.00	89.4 - 100.0	42.42	25.5 - 60.8	1.74	1.3 - 2.3	0.00		63.5	56.4 - 70.0	100.0		0.288
>9574	100.00	89.4 - 100.0	45.45	28.1 - 63.6	1.83	1.3 - 2.5	0.00		64.7	57.3 - 71.5	100.0		0.273
>9722	100.00	89.4 - 100.0	48.48	30.8 - 66.5	1.94	1.4 - 2.7	0.00		66.0	58.2 - 73.0	100.0		0.258
>9802	100.00	89.4 - 100.0	51.52	33.5 - 69.2	2.06	1.5 - 2.9	0.00		67.3	59.2 - 74.6	100.0		0.242
>10246	100.00	89.4 - 100.0	54.55	36.4 - 71.9	2.20	1.5 - 3.2	0.00		68.7	60.2 - 76.2	100.0		0.227
>11246	100.00	89.4 - 100.0	57.58	39.2 - 74.5	2.36	1.6 - 3.5	0.00		70.2	61.3 - 77.8	100.0		0.212
>11584	100.00	89.4 - 100.0	60.61	42.1 - 77.1	2.54	1.7 - 3.9	0.00		71.7	62.4 - 79.5	100.0		0.197
>11824	100.00	89.4 - 100.0	63.64	45.1 - 79.6	2.75	1.8 - 4.3	0.00		73.3	63.7 - 81.2	100.0		0.182
>12464	100.00	89.4 - 100.0	66.67	48.2 - 82.0	3.00	1.9 - 4.9	0.00		75.0	64.9 - 82.9	100.0		0.167
>12628	100.00	89.4 - 100.0	69.70	51.3 - 84.4	3.30	2.0 - 5.5	0.00		76.7	66.3 - 84.7	100.0		0.152
>12778	100.00	89.4 - 100.0	72.73	54.5 - 86.7	3.67	2.1 - 6.4	0.00		78.6	67.7 - 86.5	100.0		0.136
>12782	100.00	89.4 - 100.0	75.76	57.7 - 88.9	4.12	2.3 - 7.5	0.00		80.5	69.3 - 88.3	100.0		0.121
>12962	100.00	89.4 - 100.0	78.79	61.1 - 91.0	4.71	2.4 - 9.1	0.00		82.5	71.0 - 90.1	100.0		0.106
>13142	100.00	89.4 - 100.0	81.82	64.5 - 93.0	5.50	2.7 - 11.3	0.00		84.6	72.7 - 91.9	100.0		0.0909
>13424	96.97	84.2 - 99.9	84.85	68.1 - 94.9	6.40	2.8 - 14.4	0.036	0.005 - 0.2	86.5	74.0 - 93.5	96.6	80.2 - 99.5	0.106
>13438	96.97	84.2 - 99.9	87.88	71.8 - 96.6	8.00	3.2 - 20.1	0.034	0.005 - 0.2	88.9	76.1 - 95.3	96.7	80.7 - 99.5	0.0909
>13634	96.97	84.2 - 99.9	90.91	75.7 - 98.1	10.67	3.6 - 31.4	0.033	0.005 - 0.2	91.4	78.4 - 96.9	96.8	81.3 - 99.5	0.0758
>13982	93.94	79.8 - 99.3	90.91	75.7 - 98.1	10.33	3.5 - 30.5	0.067	0.02 - 0.3	91.2	77.8 - 96.8	93.7	79.6 - 98.3	0.106
>14226	93.94	79.8 - 99.3	93.94	79.8 - 99.3	15.50	4.0 - 59.6	0.065	0.02 - 0.2	93.9	80.1 - 98.3	93.9	80.1 - 98.3	0.0909
>14382	93.94	79.8 - 99.3	96.97	84.2 - 99.9	31.00	4.5 - 214.0	0.063	0.02 - 0.2	96.9	81.8 - 99.5	94.1	80.7 - 98.4	0.0758
>14642	93.94	79.8 - 99.3	100.00	89.4 - 100.0			0.061	0.02 - 0.2	100.0		94.3	81.2 - 98.4	0.0606
>15224	90.91	75.7 - 98.1	100.00	89.4 - 100.0			0.091	0.03 - 0.3	100.0		91.7	78.9 - 97.0	0.0909
>17834	87.88	71.8 - 96.6	100.00	89.4 - 100.0			0.12	0.05 - 0.3	100.0		89.2	76.7 - 95.4	0.121
>19024	84.85	68.1 - 94.9	100.00	89.4 - 100.0			0.15	0.07 - 0.3	100.0		86.8	74.6 - 93.7	0.152
>19114	81.82	64.5 - 93.0	100.00	89.4 - 100.0			0.18	0.09 - 0.4	100.0		84.6	72.7 - 91.9	0.182
>19130	78.79	61.1 - 91.0	100.00	89.4 - 100.0			0.21	0.1 - 0.4	100.0		82.5	71.0 - 90.1	0.212
>19452	75.76	57.7 - 88.9	100.00	89.4 - 100.0			0.24	0.1 - 0.4	100.0		80.5	69.3 - 88.3	0.242
>19664	72.73	54.5 - 86.7	100.00	89.4 - 100.0			0.27	0.2 - 0.5	100.0		78.6	67.7 - 86.5	0.273

>23156	69.70	51.3 - 84.4	100.00	89.4 - 100.0			0.30	0.2 - 0.5	100.0		76.7	66.3 - 84.7	0.303
>24528	66.67	48.2 - 82.0	100.00	89.4 - 100.0			0.33	0.2 - 0.5	100.0		75.0	64.9 - 82.9	0.333
>24664	63.64	45.1 - 79.6	100.00	89.4 - 100.0			0.36	0.2 - 0.6	100.0		73.3	63.7 - 81.2	0.364
>27050	60.61	42.1 - 77.1	100.00	89.4 - 100.0			0.39	0.3 - 0.6	100.0		71.7	62.4 - 79.5	0.394
>31222	57.58	39.2 - 74.5	100.00	89.4 - 100.0			0.42	0.3 - 0.6	100.0		70.2	61.3 - 77.8	0.424
>32438	54.55	36.4 - 71.9	100.00	89.4 - 100.0			0.45	0.3 - 0.7	100.0		68.7	60.2 - 76.2	0.455
>33042	51.52	33.5 - 69.2	100.00	89.4 - 100.0			0.48	0.3 - 0.7	100.0		67.3	59.2 - 74.6	0.485
>35224	48.48	30.8 - 66.5	100.00	89.4 - 100.0			0.52	0.4 - 0.7	100.0		66.0	58.2 - 73.0	0.515
>35648	45.45	28.1 - 63.6	100.00	89.4 - 100.0			0.55	0.4 - 0.7	100.0		64.7	57.3 - 71.5	0.545
>39428	42.42	25.5 - 60.8	100.00	89.4 - 100.0			0.58	0.4 - 0.8	100.0		63.5	56.4 - 70.0	0.576
>40246	39.39	22.9 - 57.9	100.00	89.4 - 100.0			0.61	0.5 - 0.8	100.0		62.3	55.6 - 68.5	0.606
>43034	36.36	20.4 - 54.9	100.00	89.4 - 100.0			0.64	0.5 - 0.8	100.0		61.1	54.8 - 67.0	0.636
>43800	33.33	18.0 - 51.8	100.00	89.4 - 100.0			0.67	0.5 - 0.8	100.0		60.0	54.1 - 65.6	0.667
>46820	30.30	15.6 - 48.7	100.00	89.4 - 100.0			0.70	0.6 - 0.9	100.0		58.9	53.4 - 64.2	0.697
>52586	27.27	13.3 - 45.5	100.00	89.4 - 100.0			0.73	0.6 - 0.9	100.0		57.9	52.7 - 62.9	0.727
>53178	24.24	11.1 - 42.3	100.00	89.4 - 100.0			0.76	0.6 - 0.9	100.0		56.9	52.1 - 61.6	0.758
>53484	21.21	9.0 - 38.9	100.00	89.4 - 100.0			0.79	0.7 - 0.9	100.0		55.9	51.5 - 60.2	0.788
>55030	18.18	7.0 - 35.5	100.00	89.4 - 100.0			0.82	0.7 - 1.0	100.0		55.0	51.0 - 58.9	0.818
>56424	15.15	5.1 - 31.9	100.00	89.4 - 100.0			0.85	0.7 - 1.0	100.0		54.1	50.5 - 57.7	0.848
>59424	12.12	3.4 - 28.2	100.00	89.4 - 100.0			0.88	0.8 - 1.0	100.0		53.2	50.1 - 56.4	0.879
>60382	9.09	1.9 - 24.3	100.00	89.4 - 100.0			0.91	0.8 - 1.0	100.0		52.4	49.7 - 55.1	0.909
>65034	6.06	0.7 - 20.2	100.00	89.4 - 100.0			0.94	0.9 - 1.0	100.0		51.6	49.4 - 53.7	0.939
>69038	3.03	0.08 - 15.8	100.00	89.4 - 100.0			0.97	0.9 - 1.0	100.0		50.8	49.3 - 52.3	0.970
>73028	0.00	0.0 - 10.6	100.00	89.4 - 100.0			1.00	1.0 - 1.0			50.0	50.0 - 50.0	1.000