

**Receiver operating characteristic
(ROC)
in ClinProTools**

Basics

Receiver Operating Characteristic (ROC)

The ROC can be used in ClinProTools to evaluate how well a peak can separate between two classes. The ROC is reported as a curve. The shape of the curve as well as the **area under the curve (AUC)** contain this information.

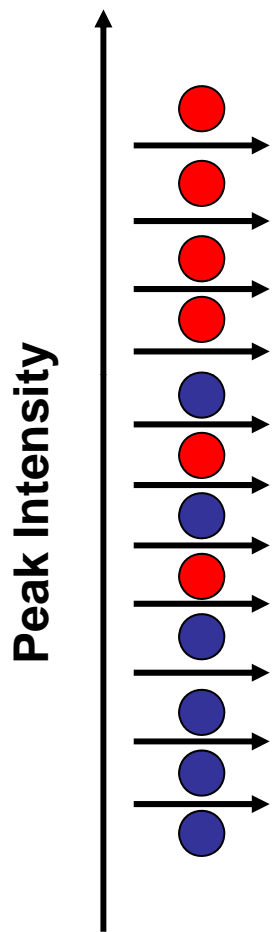
Definitions:

Sensitivity = $TP/(TP+FN)$

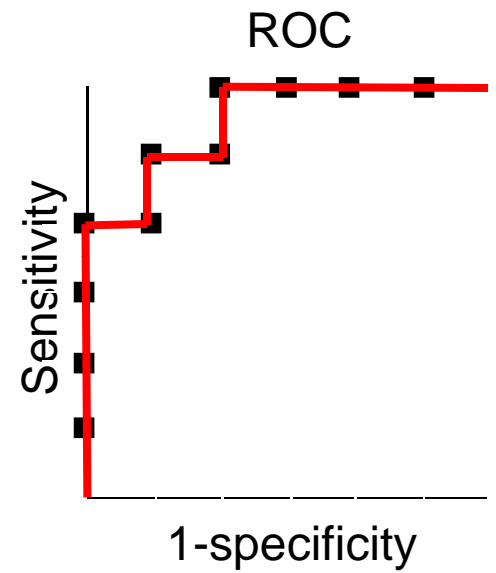
The fraction of correctly identified true positives (TP) over true positives plus false negatives (FN). Can also be seen as correctly identified positives from all positives.

Specificity = $TN/(TN+FP)$

The fraction of correctly identified true negatives (TN) over true positives plus false positives (FP). Can also be seen as correctly identified negatives from all negatives.



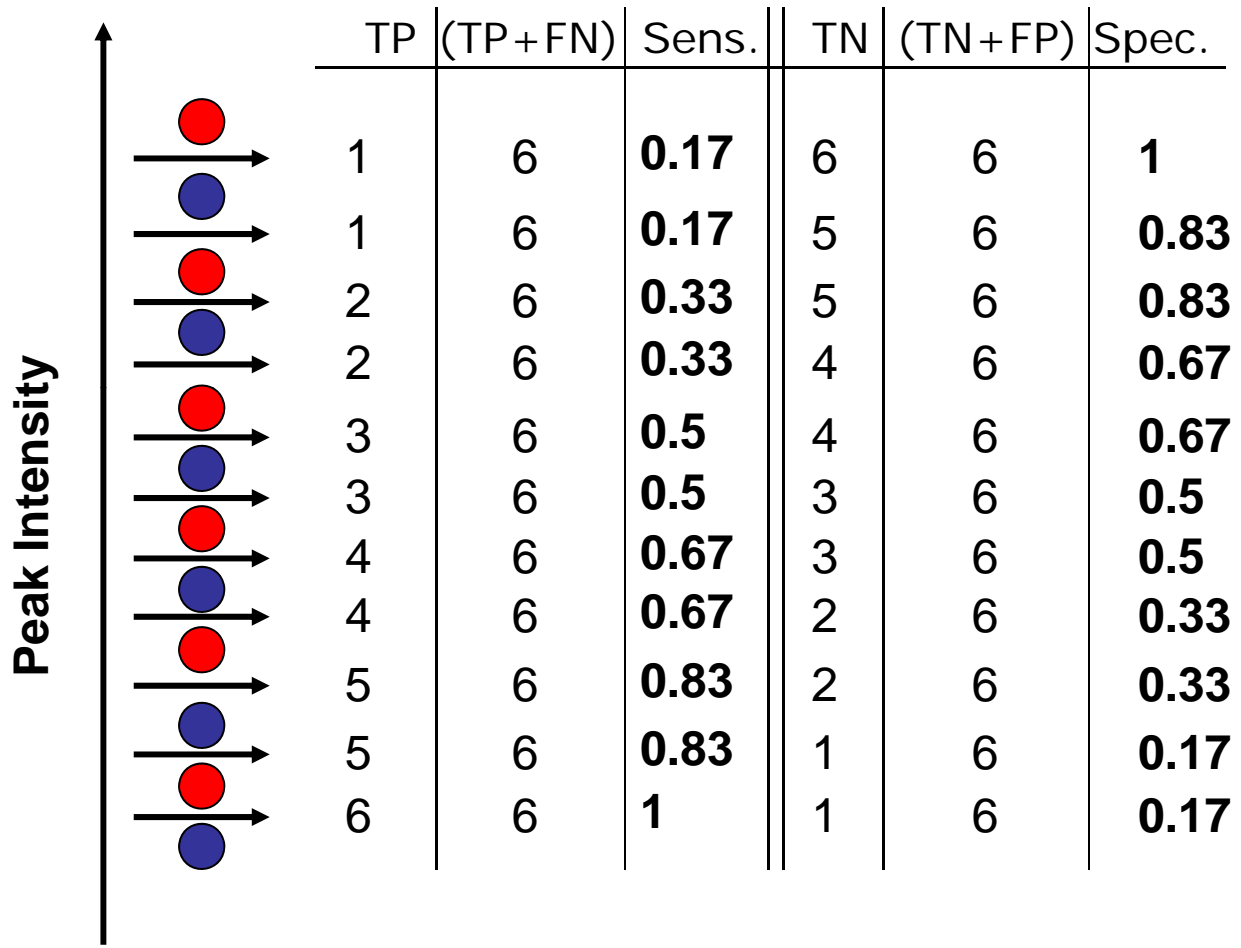
	TP	(TP+FN)	Sens.	TN	(TN+FP)	Spec.
1	1	6	0.17	6	6	1
2	2	6	0.33	6	6	1
3	3	6	0.5	6	6	1
4	4	6	0.66	6	6	1
4	4	6	0.66	5	6	0.83
5	5	6	0.83	5	6	0.83
5	5	6	0.83	4	6	0.66
6	6	6	1	4	6	0.66
6	6	6	1	3	6	0.5
6	6	6	1	2	6	0.33
6	6	6	1	4	6	0.17



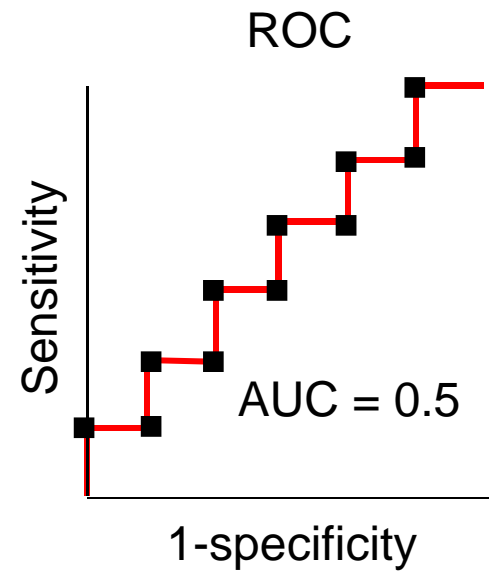
● = Class 1 ● = Class 2

Sensitivity = TP/(TP+FN)

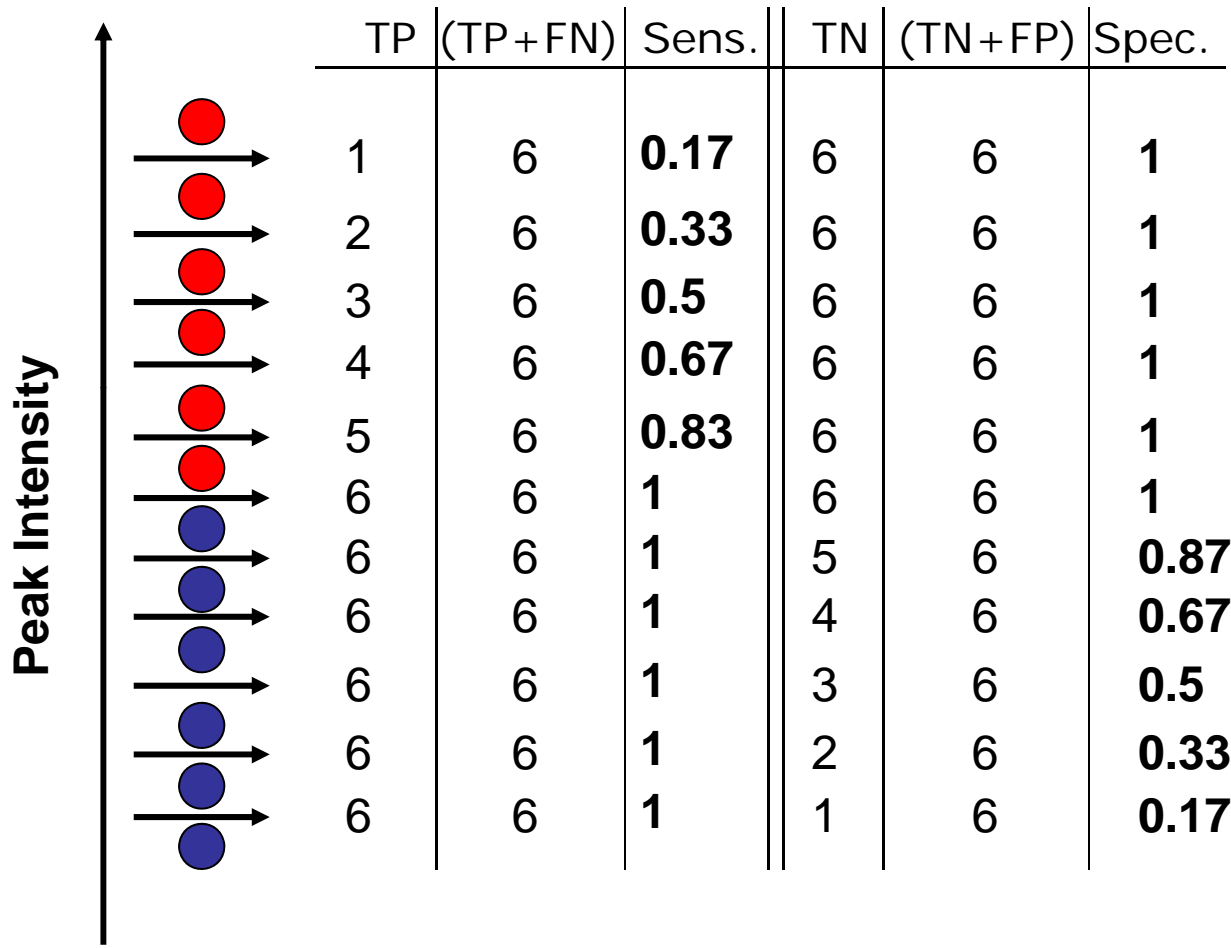
Specificity = TN/(TN+FP)



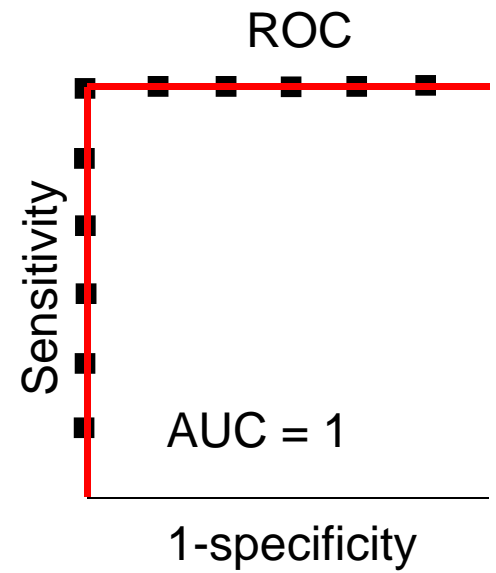
● = Class 1 ● = Class 2



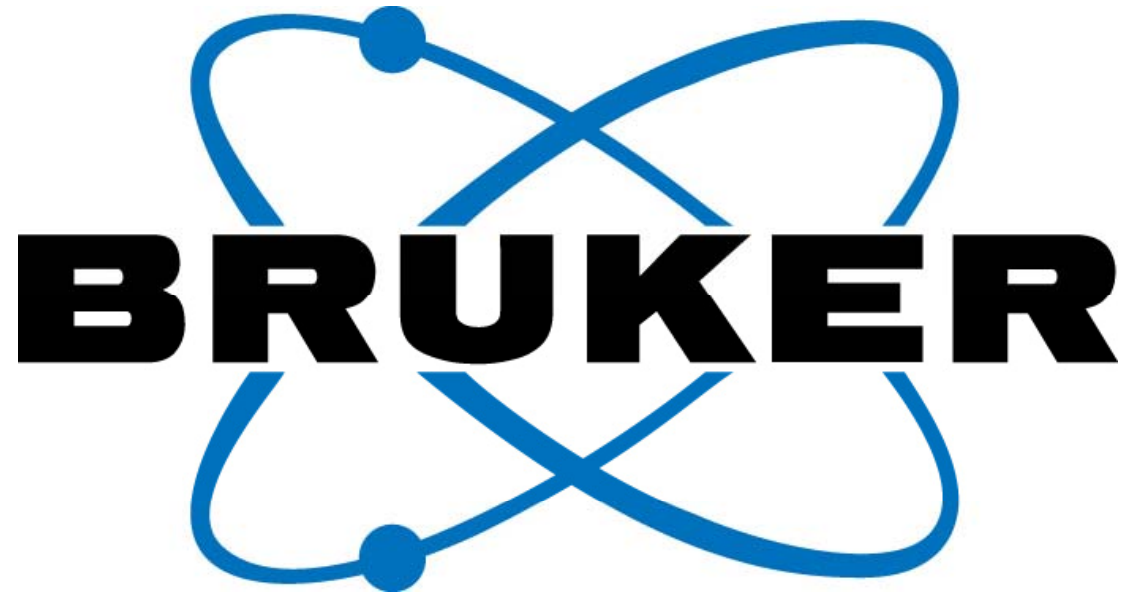
Sensitivity = TP/(TP+FN)
 Specificity = TN/(TN+FP)



● = Class 1 ● = Class 2



Sensitivity = $TP / (TP + FN)$
 Specificity = $TN / (TN + FP)$



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