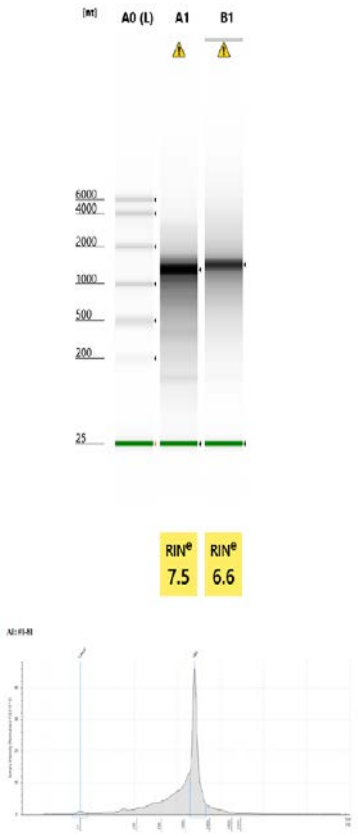
UF | ICBR
Gene Expression & Genotyping

Bioanalyzer/TapeStation - Frequently Asked Questions:

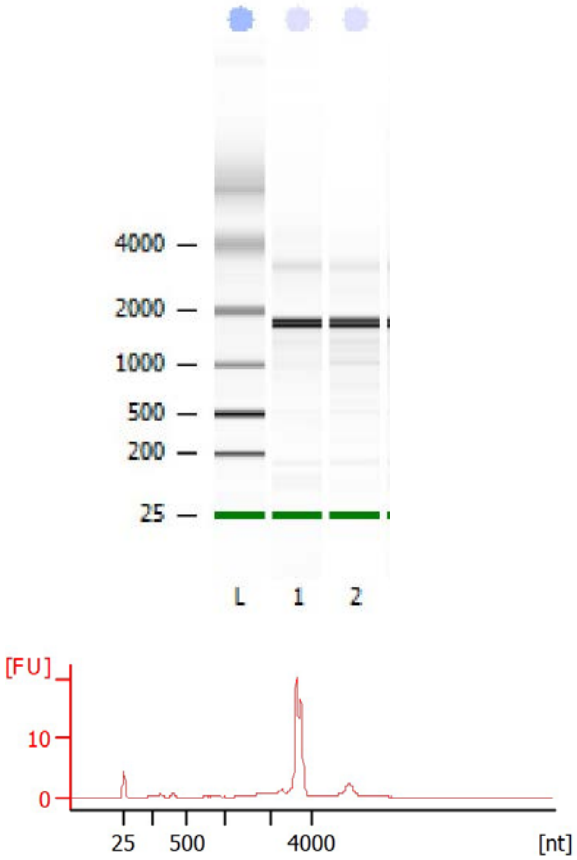
Q: Should I choose Bioanalyzer or TapeStation run for my samples?

A: The Agilent 2200 TapeStation system can run anywhere from 1 to 95 samples. The Bioanalyzer is "chip-based" and can only fit 11 or 12 samples per run. Therefore, the service fee for Bioanalyzer run is charged on a per chip basis. Both Bioanalyzer and TapeStation can run cDNA or NextGen library samples. However, for RNA samples with irregular ribosome sizes/composition such as plant/insect/fish, we suggest to use Bioanalzyer. TapeStation will not able to distinguish the peaks if they are close. An example is shown below:

TapeStation



Bioanalyzer



Q: How much samples should I provide?

A: A minimum of 4ul.

Q: Will I be able to get my samples back?

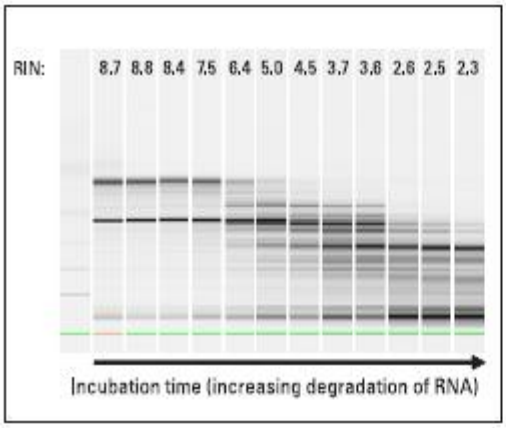
A: No. Only submit an aliquot of your original samples. Once you submit your samples you will not be able to get them back.

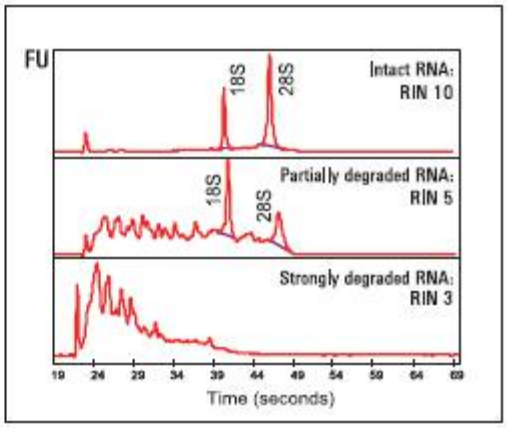
Q: Do I need to provide the concentration of my samples?

A: Yes, you need to have either Nanodrop or Qubit concentration data to be able to select the correct TapeStation or Bioanalzyer assay to run. Any failed run due selection of incorrect assay for your sample concentration will not be refunded.

Q: What Does RIN mean?

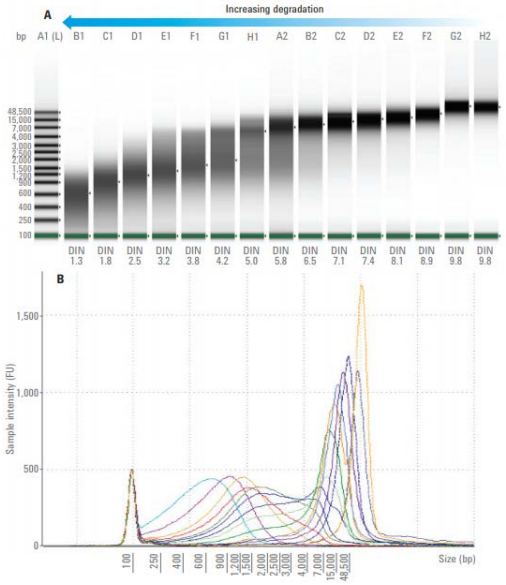
The RIN (RNA Integrity Number) is a software algorithm developed by Agilent using about 1300 total RNA samples from various tissues to determine RNA quality. It is calculated by including the 28s/18s ratio, the region before the peaks, signal areas, and intensities. RIN values range from 1 to 10; 10 being completely intact RNA, 1 being completely degraded. It is recommended to only use samples with a RIN of 7 or greaterfor downstream experiments. Visualized RIN and associated RNA quantity is shown below (picture adopted from Agilent application Notes: https://www.agilent.com/cs/library/applications/5989-1165EN.pdf)





Q: What Does DIN mean?

A: Similar to theRIN value, DIN (DNA Integrity Number) is a software algorithm to determine DNA quality. Visualized DIN and associated DNA quantity is shown below (picture adopted from Agilent application Notes: https://www.agilent.com/cs/library/applications/5991-5258EN.pdf)



Q: What are the quantitative and size ranges for different DNA TapeStation assays?

ScreenTape	Size Range	Quantitative Range	RIN/DIN Functional Range
Genomic DNA	200 - >60k bp	-	5 - 300 ng/uL
D1000	35 - 1000 bp	0.1 - 50 ng/uL	-
High Sensitivity D1000	35 - 1000 bp	10 - 1000 pg/uL	-
D5000	100 - 5000 bp	0.1 - 50 ng/uL	-
High Sensitivity D5000	100 - 5000 bp	10 - 1000 pg/uL	-

Q: What are the quantitative and size ranges for different RNA TapeStation assays?

ScreenTape	Size Range	Quantitative Range	RIN/DIN Functional Range
RNA TapeScreen	100 - 6000 nt	25 - 500 ng/uL	25-500 ng/uL
High Sensitivity RNA	100 - 6000 nt	500-10000 pg/uL	1000-25000 pg/uL

Q: What are the quantitative and size ranges for different DNA Bioanalyzer assays?

Chip	Size Range	Quantitative Range	Qualitative Range
High Sensitivity DNA	50 - 7000 bp	5 - 500 pg/uL	-
D1000	25 - 1000 bp	0.5 - 50 ng/uL	-

Q: What are the quantitative and size ranges for different RNA Bioanalyzer assays?

Chip	Size Range	Quantitative Range	Qualitative Range
Nano, Total RNA	-	25 - 500 ng/uL	5 - 500 ng/uL
Nano, mRNA	-	25 - 250 ng/uL	25 - 250 ng/uL
Pico, Total RNA	-	200 - 5000 pg/uL	50 - 5000 pg/uL
Pico, mRNA	-	500 - 5000 pg/uL	250 - 5000 pg/uL
Small RNA	6-150 nt	50 - 2000 pg/uL	-