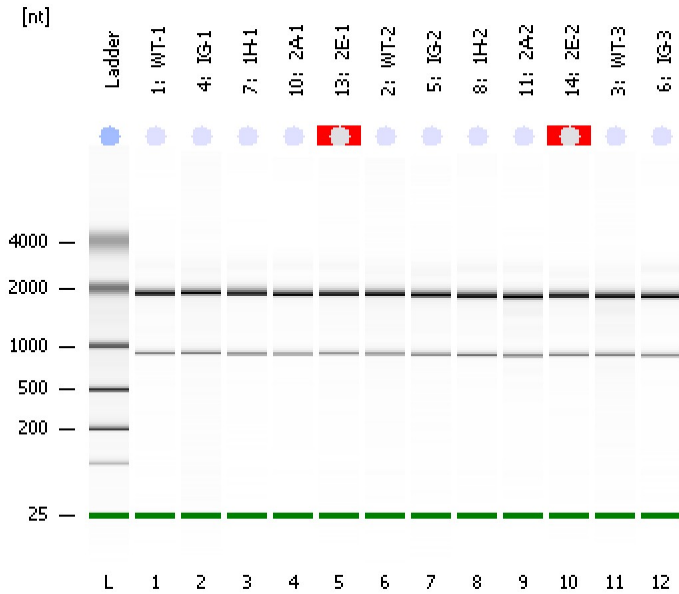


Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

Electrophoresis File Run Summary



Instrument Information:

Instrument Name: DE13701086      Firmware: C.01.069  
Serial#: DE13701086      Type: G2938B

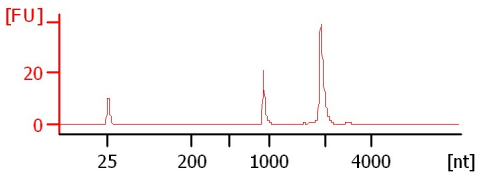
Assay Information:

Assay Origin Path: C:\Program Files\Agilent\2100 bioanalyzer\2100 expert\assays\RNA\Eukaryote Total RNA Nano Series II.xsy  
Assay Class: Eukaryote Total RNA Nano  
Version: 2.6  
Assay Comments: Total RNA Analysis ng sensitivity (Eukaryote)  
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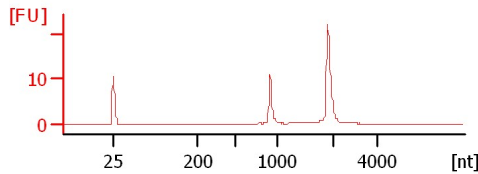
Chip Information:

Chip Lot #:   
Reagent Kit Lot #:   
Chip Comments:

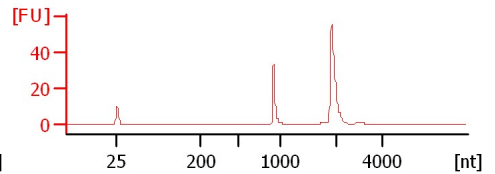
**1: WT-1**  
Knoepler/Bush Total RNA QC  
RIN:10



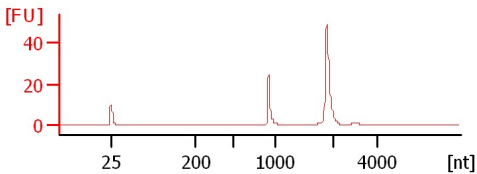
**4: IG-1**  
Knoepler/Bush Total RNA QC  
RIN: 9.60



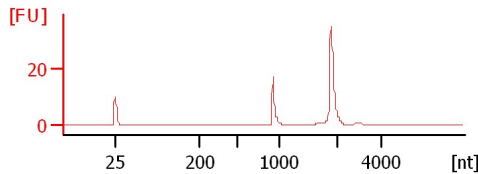
**7: 1H-1**  
Knoepler/Bush Total RNA QC  
RIN:10



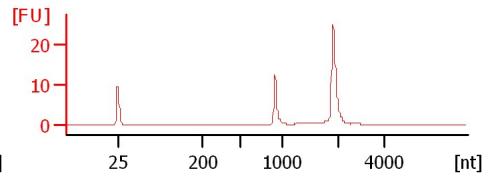
**10: 2A-1**  
Knoepler/Bush Total RNA QC  
RIN:10



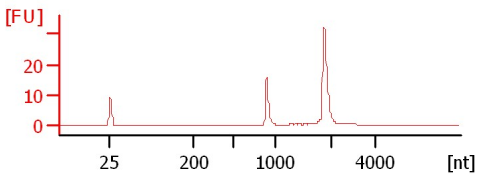
**13: 2E-1**  
Knoepler/Bush Total RNA QC  
RIN N/A



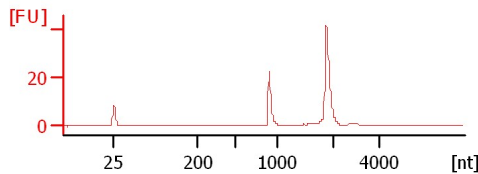
**2: WT-2**  
Knoepler/Bush Total RNA QC  
RIN: 9.70



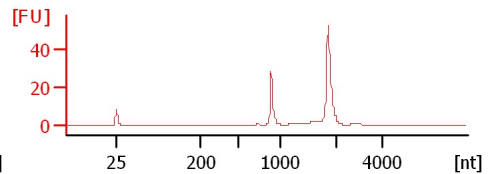
**5: IG-2**  
Knoepler/Bush Total RNA QC  
RIN: 9.80



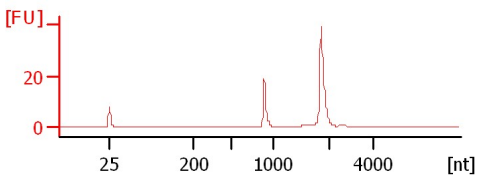
**8: 1H-2**  
Knoepler/Bush Total RNA QC  
RIN:10



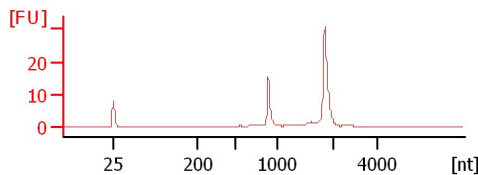
**11: 2A-2**  
Knoepler/Bush Total RNA QC  
RIN: 9.80



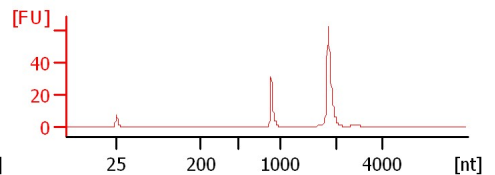
**14: 2E-2**  
Knoepler/Bush Total RNA QC  
RIN N/A



**3: WT-3**  
Knoepler/Bush Total RNA QC  
RIN: 9.40
















**6: IG-3**  
Knoepler/Bush Total RNA QC  
RIN: 9.90



Assay Class: Eukaryote Total RNA Nano  
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
 Modified: 1/5/2016 1:43:28 PM

**Electrophoresis File Run Summary (Chip Summary)**

Sample Name	Sample Comment	Status	Result Label	Result Color
1: WT-1	Knoepler/Bush Total RNA QC	✓	RIN:10	
4: IG-1	Knoepler/Bush Total RNA QC	✓	RIN: 9.60	
7: 1H-1	Knoepler/Bush Total RNA QC	✓	RIN:10	
10: 2A-1	Knoepler/Bush Total RNA QC	✓	RIN:10	
13: 2E-1	Knoepler/Bush Total RNA QC	✓	RIN N/A	
2: WT-2	Knoepler/Bush Total RNA QC	✓	RIN: 9.70	
5: IG-2	Knoepler/Bush Total RNA QC	✓	RIN: 9.80	
8: 1H-2	Knoepler/Bush Total RNA QC	✓	RIN:10	
11: 2A-2	Knoepler/Bush Total RNA QC	✓	RIN: 9.80	
14: 2E-2	Knoepler/Bush Total RNA QC	✓	RIN N/A	
3: WT-3	Knoepler/Bush Total RNA QC	✓	RIN: 9.40	
6: IG-3	Knoepler/Bush Total RNA QC	✓	RIN: 9.90	
Ladder		✓	All Other Samples	

Chip Lot #

Reagent Kit Lot #

Chip Comments :

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

## Electrophoresis Assay Details

### General Analysis Settings

Number of Available Sample and Ladder Wells (Max.) : 13

Minimum Visible Range [s] : 17

Maximum Visible Range [s] : 70

Start Analysis Time Range [s] : 19

End Analysis Time Range [s] : 69

Ladder Concentration [ng/ $\mu$ l] : 150

Lower Marker Concentration [ng/ $\mu$ l] : 0

Upper Marker Concentration [ng/ $\mu$ l] : 0

Used Lower Marker for Quantitation

Standard Curve Fit is Logarithmic

Show Data Aligned to Lower Marker

### Integrator Settings

Integration Start Time [s] : 19

Integration End Time [s] : 69

Slope Threshold : 0.6

Height Threshold [FU] : 0.5

Area Threshold : 0.2

Width Threshold [s] : 0.5

Baseline Plateau [s] : 6

### Filter Settings

Filter Width [s] : 0.5

Polynomial Order : 4

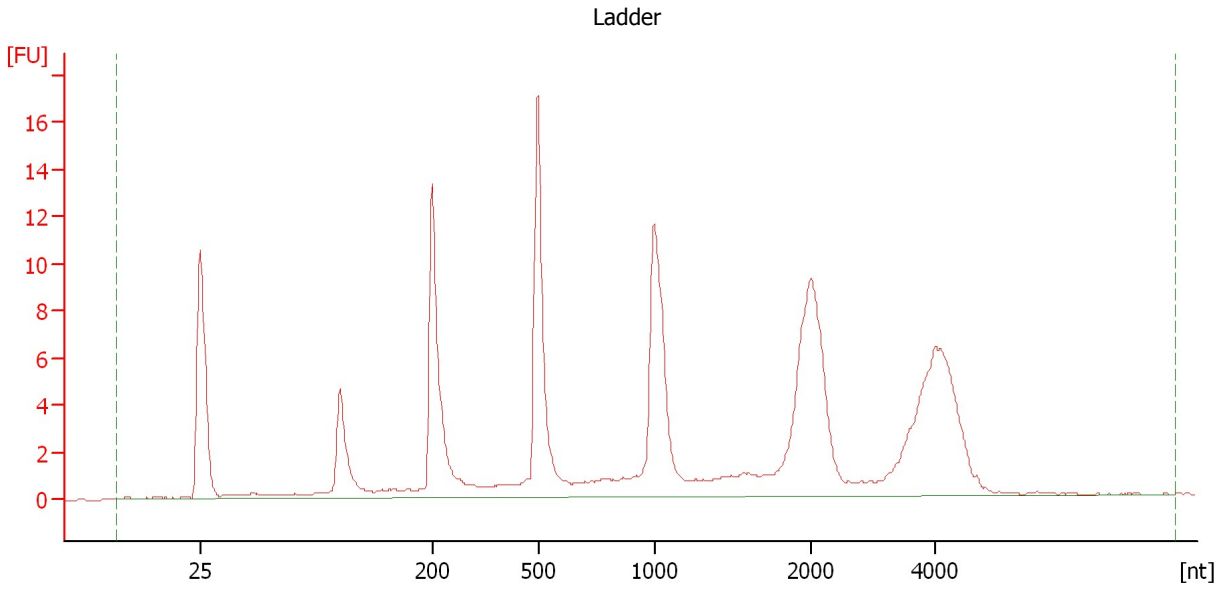
### Ladder

Ladder Peak	Size
1	25
2	200
3	500
4	1000
5	2000
6	4000

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary**



**Overall Results for Ladder**

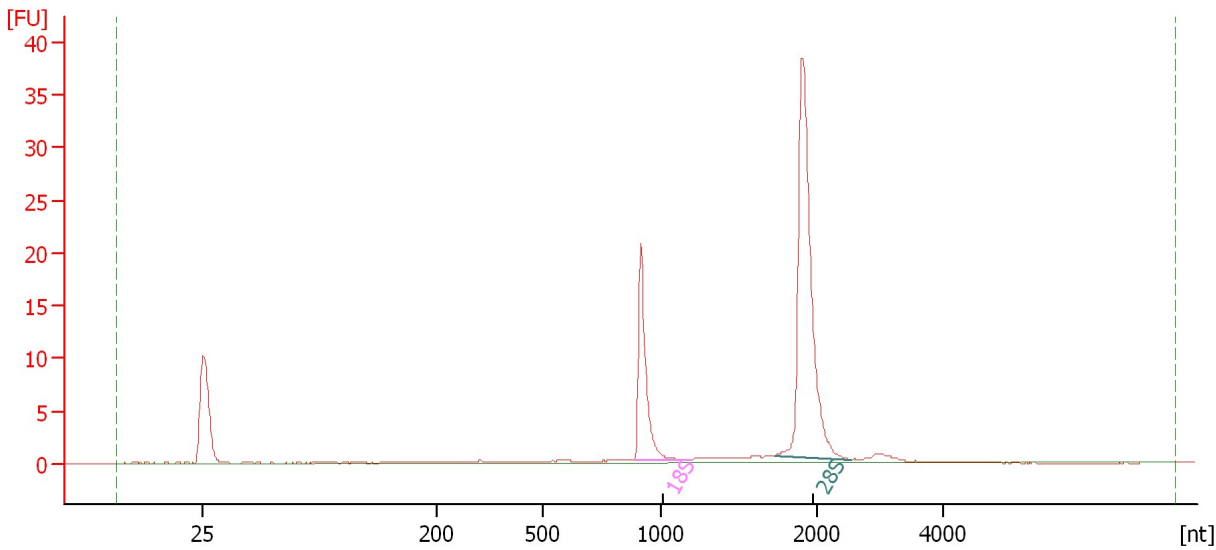
RNA Area:	146.3	Result Flagging Color:	<span style="background-color: #6699ff; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>
RNA Concentration:	150 ng/μl	Result Flagging Label:	All Other Samples

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

1: WT-1 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 1 : 1: WT-1**

RNA Area: 82.6                      RNA Integrity Number (RIN): 10 (B.02.08)  
RNA Concentration: 85 ng/μl              Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.7              Result Flagging Label: RIN:10

**Fragment table for sample 1 : 1: WT-1**

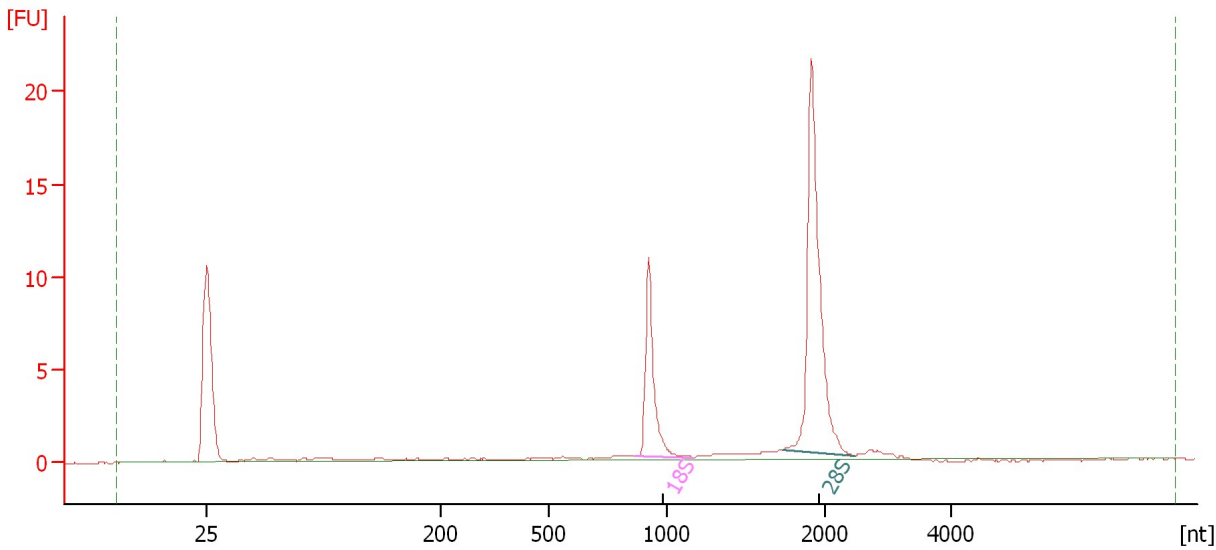
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	887	1,192	18.3	22.1
28S	1,723	2,532	49.3	59.7

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

4: IG-1 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 2 : 4: IG-1**

RNA Area: 52.4                      RNA Integrity Number (RIN): 9.6 (B.02.08)  
RNA Concentration: 54 ng/μl              Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.5              Result Flagging Label: RIN: 9.60

**Fragment table for sample 2 : 4: IG-1**

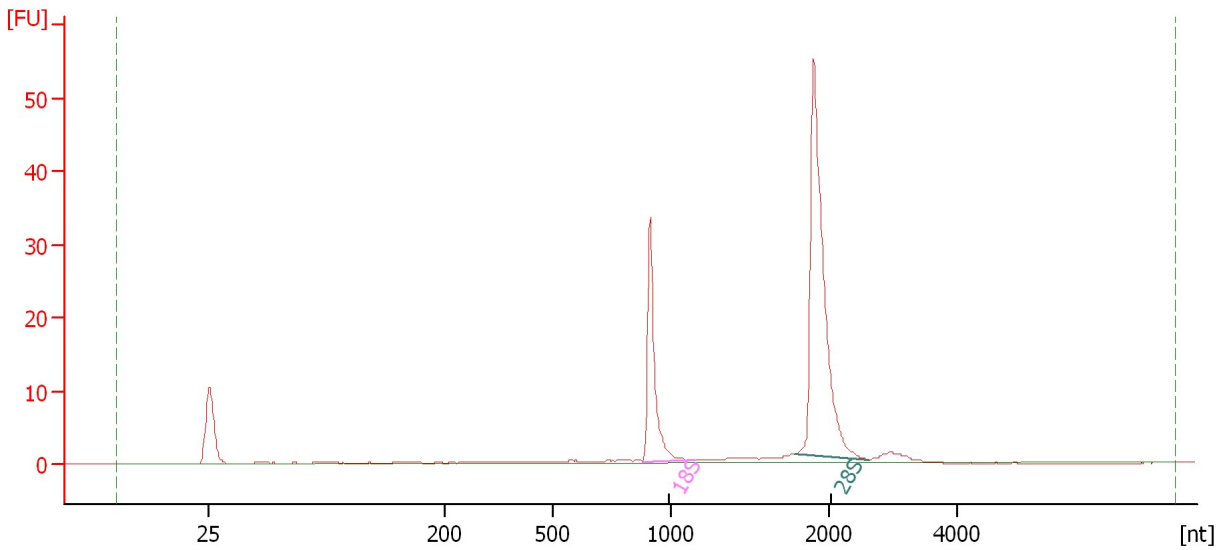
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	866	1,166	10.4	19.8
28S	1,740	2,467	26.3	50.2

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

7: 1H-1 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 3 : 7: 1H-1**

RNA Area: 126.4                      RNA Integrity Number (RIN): 10 (B.02.08)  
RNA Concentration: 130 ng/μl                      Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.5                      Result Flagging Label: RIN:10

**Fragment table for sample 3 : 7: 1H-1**

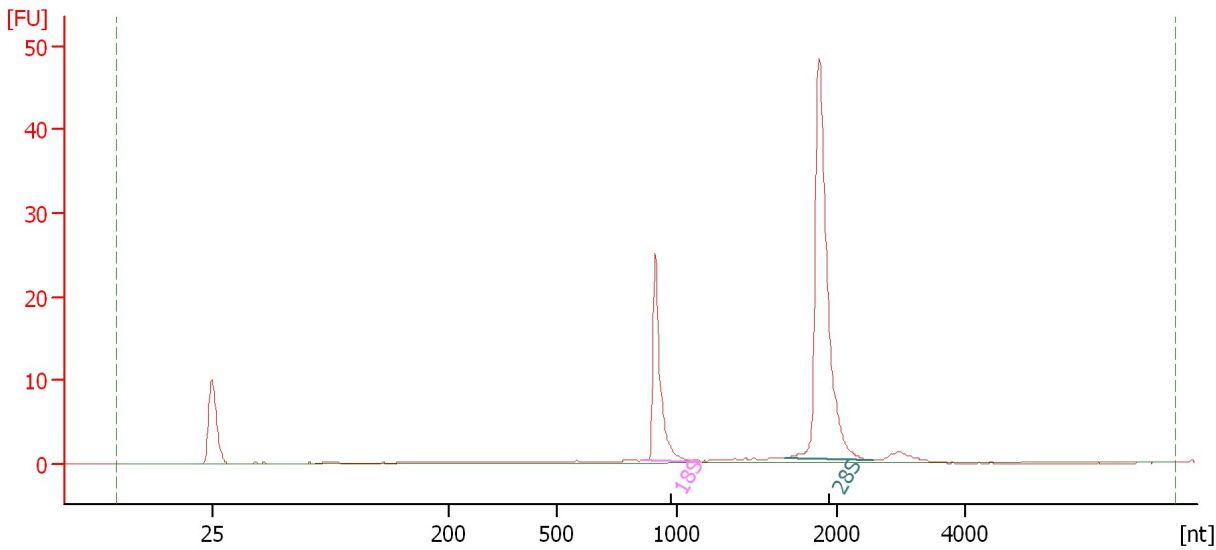
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	886	1,153	29.2	23.1
28S	1,786	2,609	72.8	57.6

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

10: 2A-1 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 4 : 10: 2A-1**

RNA Area: 97.6                      RNA Integrity Number (RIN): 10 (B.02.08)  
RNA Concentration: 100 ng/μl              Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.7              Result Flagging Label: RIN:10

**Fragment table for sample 4 : 10: 2A-1**

Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	856	1,153	22.0	22.5
28S	1,675	2,560	59.2	60.7

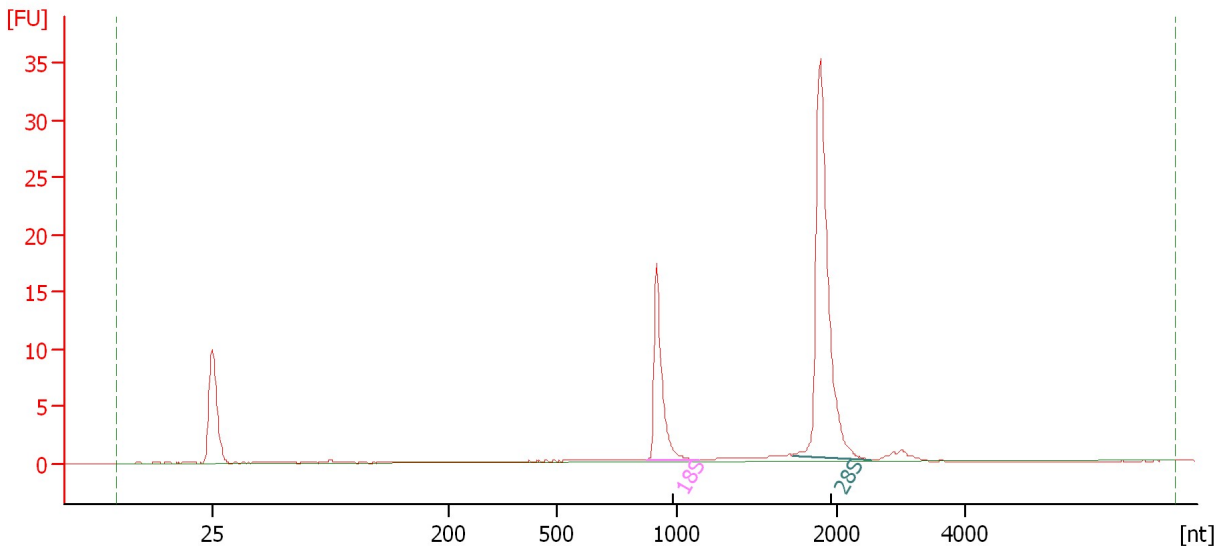


Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

13: 2E-1 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 5 : 13: 2E-1**

RNA Area:	71.4	RNA Integrity Number (RIN):	N/A (B.02.08)
RNA Concentration:	73 ng/μl	Result Flagging Color:	<span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>
rRNA Ratio [28s / 18s]:	2.7	Result Flagging Label:	RIN N/A

**Fragment table for sample 5 : 13: 2E-1**

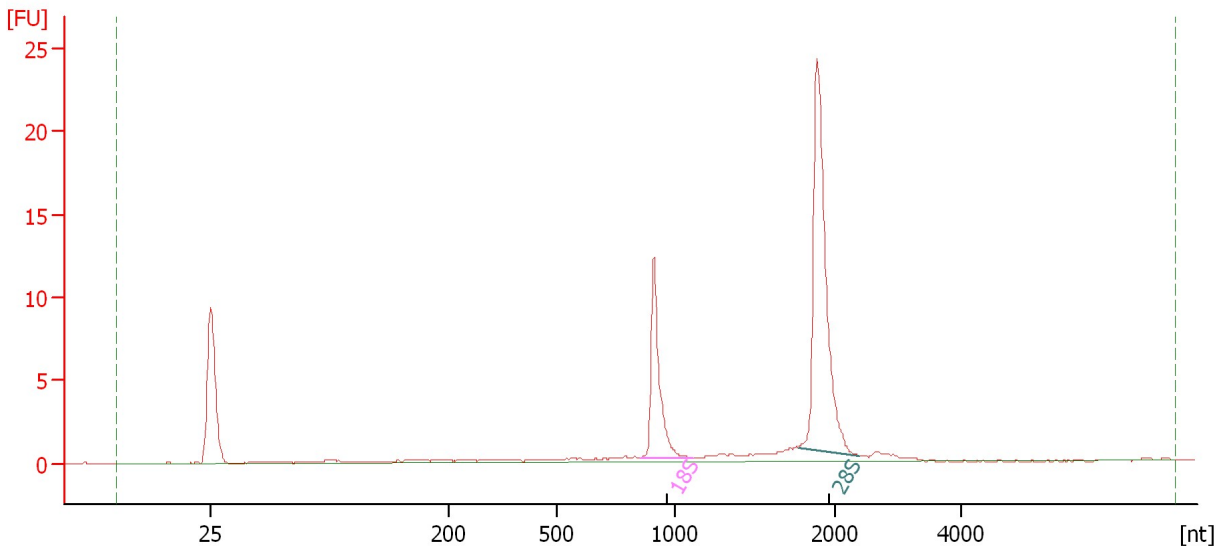
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	874	1,140	15.8	22.1
28S	1,722	2,544	42.2	59.1

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

2: WT-2 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 6 : 2: WT-2**

RNA Area:	58.8	RNA Integrity Number (RIN):	9.7 (B.02.08)
RNA Concentration:	60 ng/μl	Result Flagging Color:	<span style="background-color: #ccccff; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>
rRNA Ratio [28s / 18s]:	2.4	Result Flagging Label:	RIN: 9.70

**Fragment table for sample 6 : 2: WT-2**

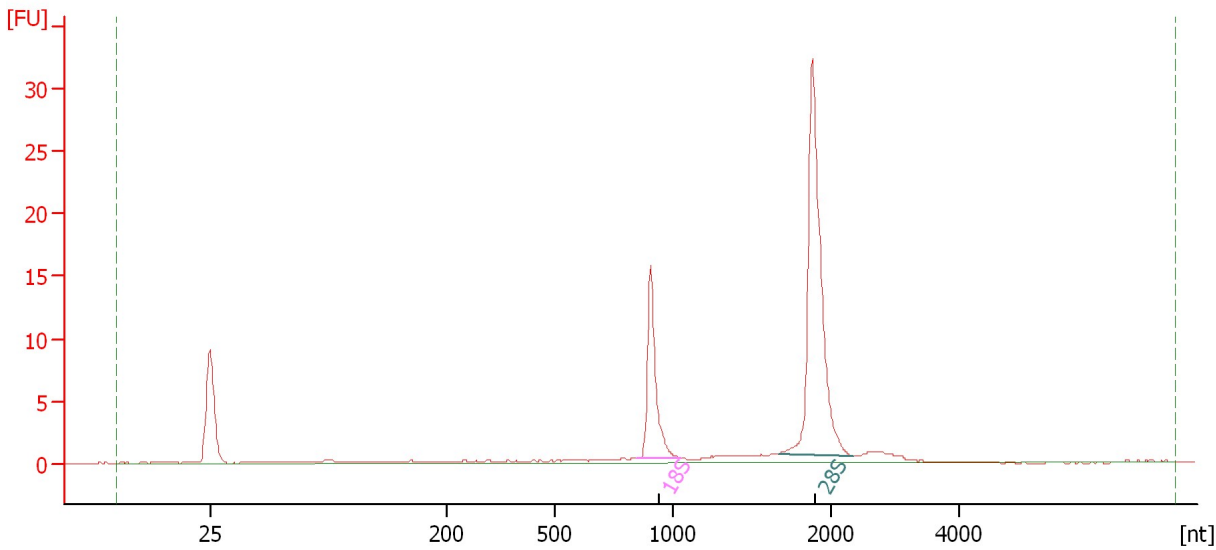
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	855	1,113	12.2	20.8
28S	1,777	2,398	29.4	49.9

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

5: IG-2 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 7 : 5: IG-2**

RNA Area: 78.8                      RNA Integrity Number (RIN): 9.8 (B.02.08)  
RNA Concentration: 81 ng/μl              Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.7              Result Flagging Label: RIN: 9.80

**Fragment table for sample 7 : 5: IG-2**

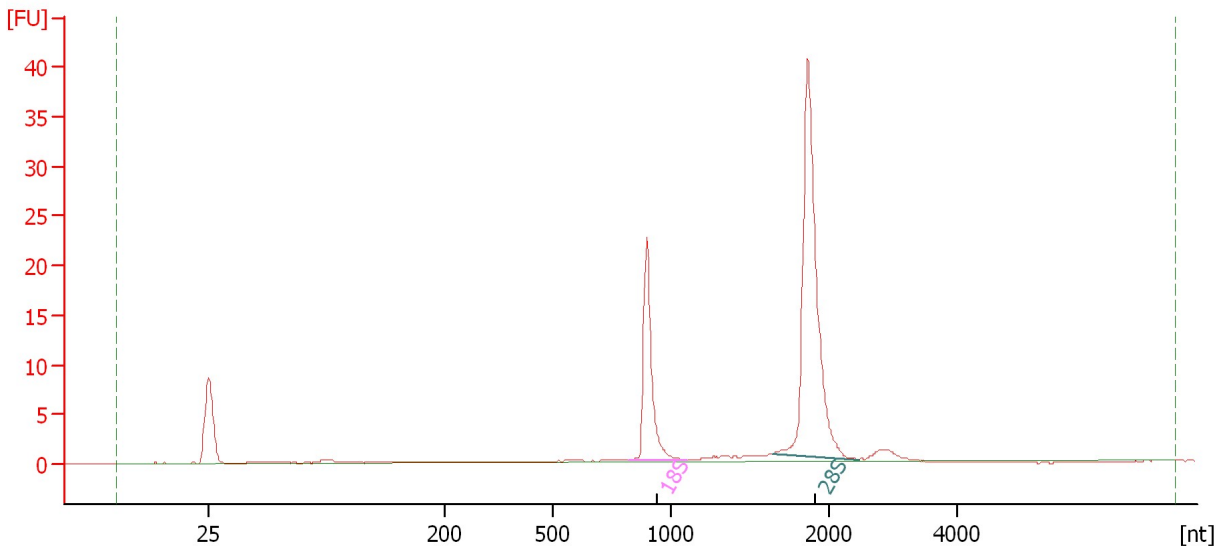
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	846	1,052	15.7	19.9
28S	1,670	2,318	42.0	53.3

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

8: 1H-2 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 8 : 8: 1H-2**

RNA Area: 96.4                      RNA Integrity Number (RIN): 10 (B.02.08)  
RNA Concentration: 99 ng/μl              Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.6              Result Flagging Label: RIN:10

**Fragment table for sample 8 : 8: 1H-2**

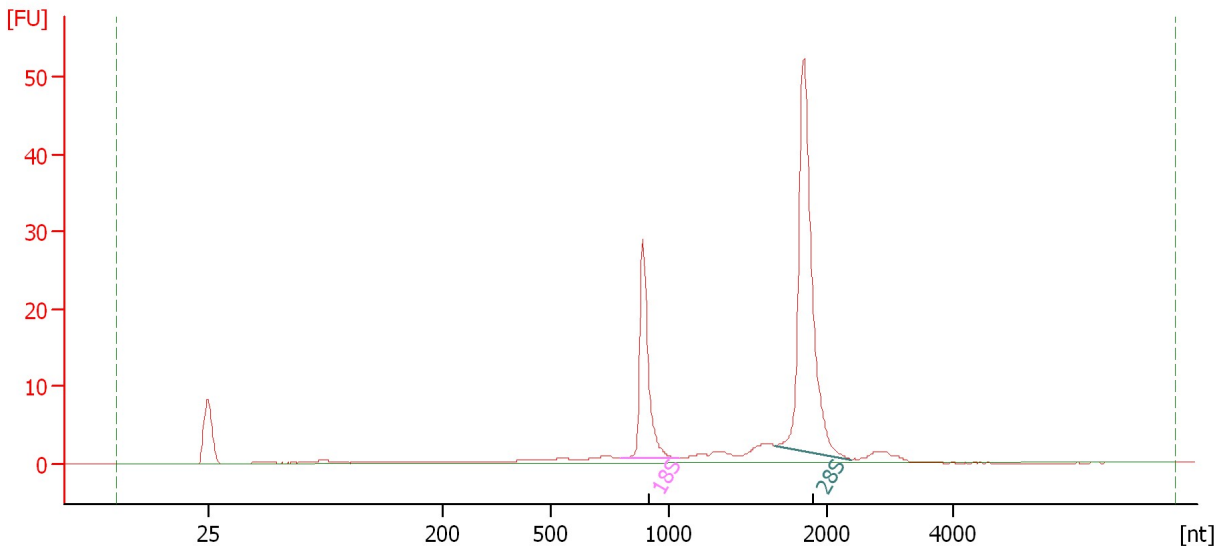
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	822	1,105	21.3	22.1
28S	1,637	2,457	56.1	58.2

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

11: 2A-2 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 9 : 11: 2A-2**

RNA Area: 138.2                      RNA Integrity Number (RIN): 9.8 (B.02.08)  
RNA Concentration: 142 ng/μl                      Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.4                      Result Flagging Label: RIN: 9.80

**Fragment table for sample 9 : 11: 2A-2**

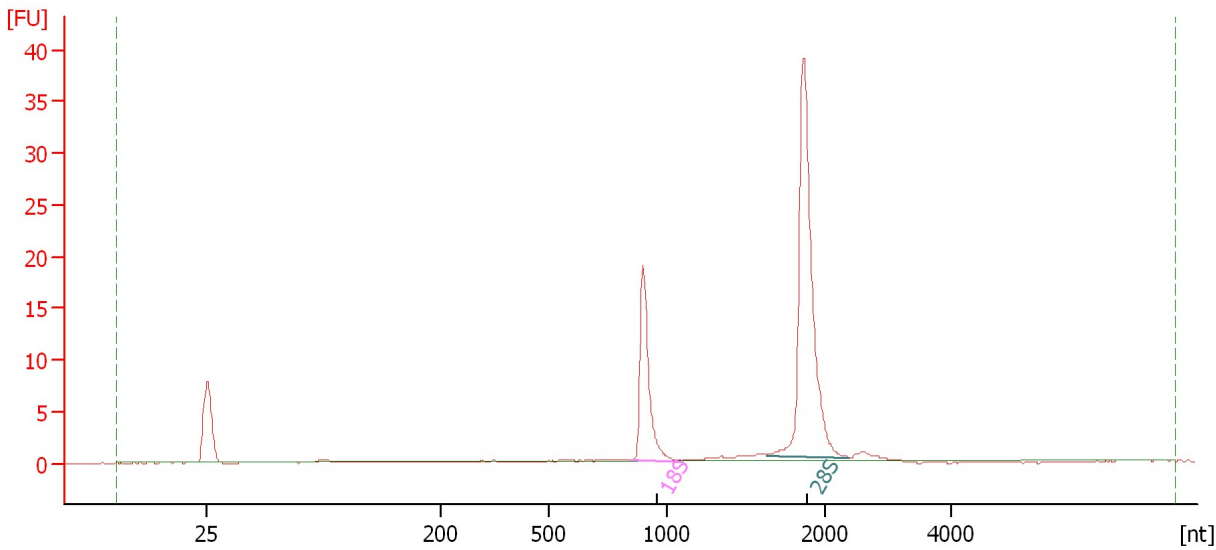
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	799	1,065	28.3	20.5
28S	1,672	2,378	67.9	49.1

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

14: 2E-2 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 10 : 14: 2E-2**

RNA Area:	82.6	RNA Integrity Number (RIN):	N/A (B.02.08)
RNA Concentration:	85 ng/μl	Result Flagging Color:	<span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>
rRNA Ratio [28s / 18s]:	2.6	Result Flagging Label:	RIN N/A

**Fragment table for sample 10 : 14: 2E-2**

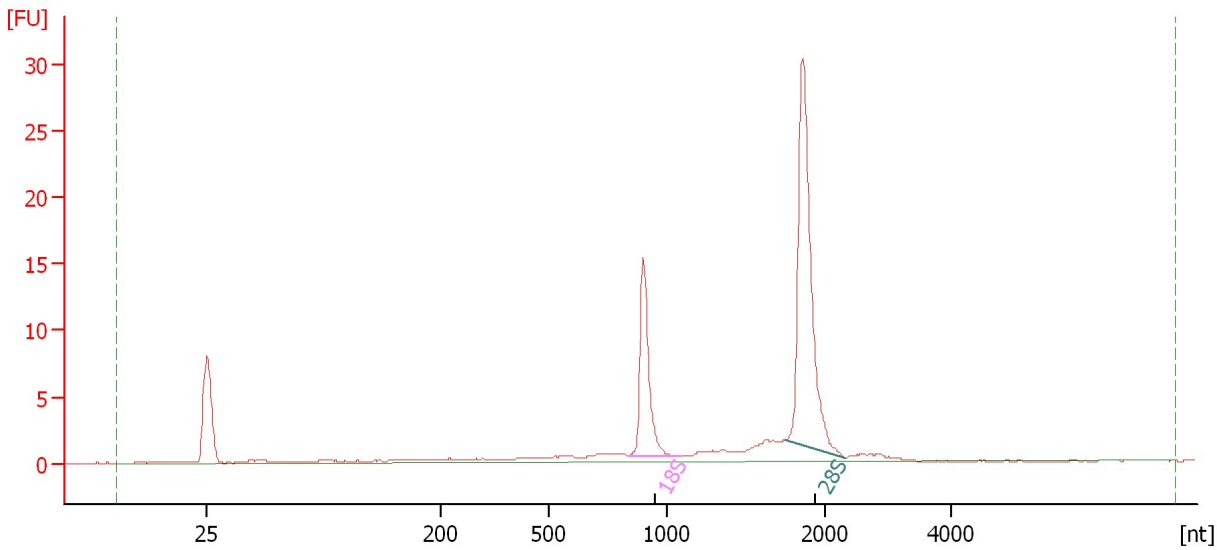
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	848	1,098	19.4	23.4
28S	1,632	2,399	50.5	61.1

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

3: WT-3 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 11 : 3: WT-3**

RNA Area:	86.7	RNA Integrity Number (RIN):	9.4 (B.02.08)
RNA Concentration:	89 ng/μl	Result Flagging Color:	<span style="background-color: #ccccff; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>
rRNA Ratio [28s / 18s]:	2.5	Result Flagging Label:	RIN: 9.40

**Fragment table for sample 11 : 3: WT-3**

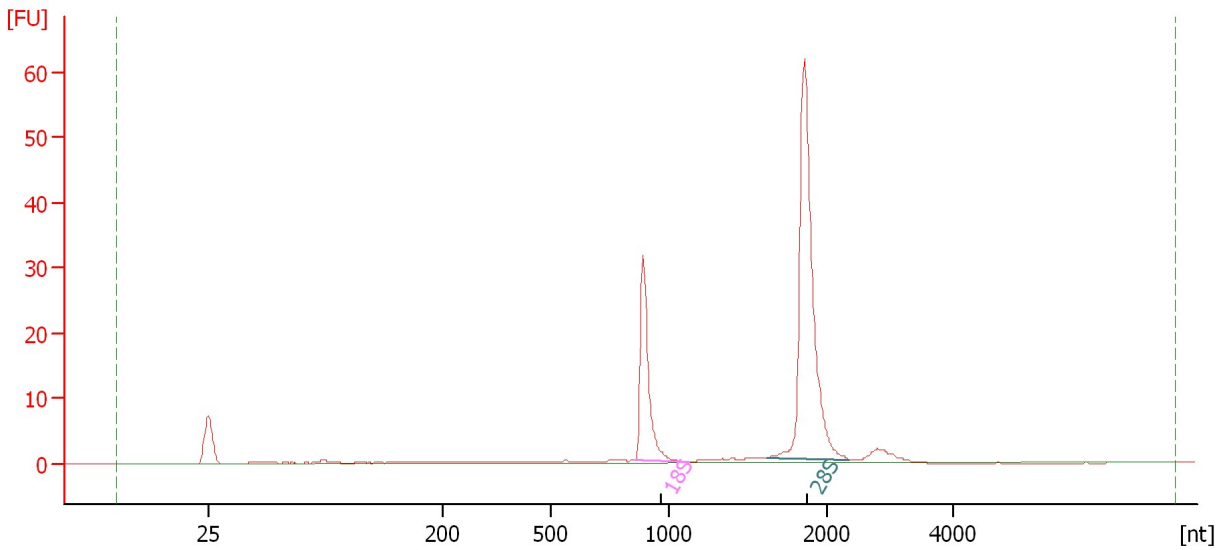
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	839	1,091	15.3	17.7
28S	1,747	2,315	37.9	43.7

Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Electropherogram Summary Continued ...**

6: IG-3 [ Knoepler/Bush Total RNA QC ]



**Overall Results for sample 12 : 6: IG-3**

RNA Area: 133.5 RNA Integrity Number (RIN): 9.9 (B.02.08)  
RNA Concentration: 137 ng/μl Result Flagging Color:   
rRNA Ratio [28s / 18s]: 2.6 Result Flagging Label: RIN: 9.90

**Fragment table for sample 12 : 6: IG-3**

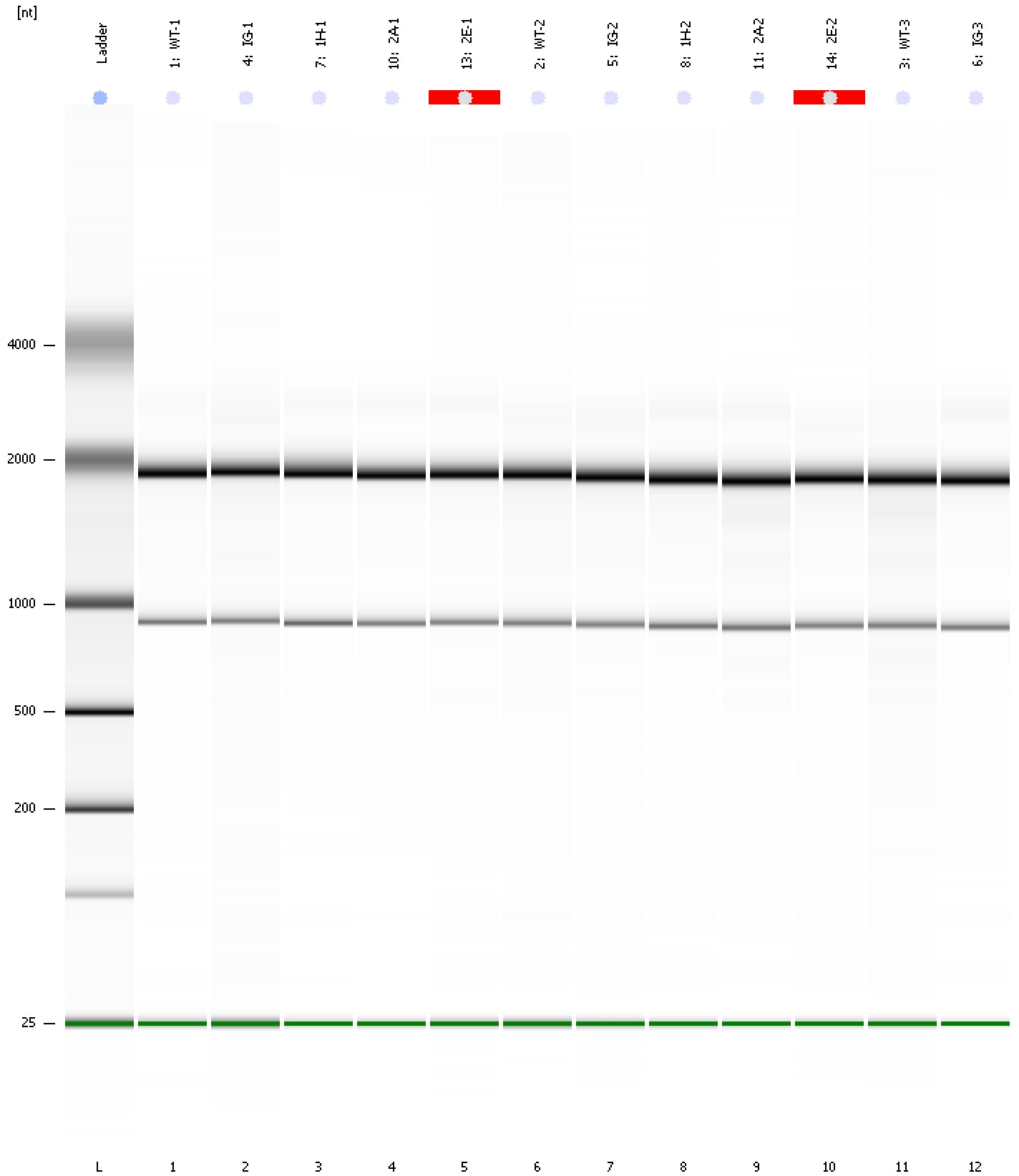
Name	Start Size [nt]	End Size [nt]	Area	% of total Area
18S	858	1,125	30.3	22.7
28S	1,625	2,361	79.7	59.7



Assay Class: Eukaryote Total RNA Nano  
Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad

Created: 1/5/2016 1:19:34 PM  
Modified: 1/5/2016 1:43:28 PM

**Gel Image**



Assay Class: Eukaryote Total RNA Nano Created: 1/5/2016 1:19:34 PM  
 Data Path: C:\...ents and Settings\Bioanalyzer\2016-01-05\2016-01-05\_001.xad Modified: 1/5/2016 1:43:28 PM

**Run Logbook**

Description	Number	Source	Category	Sub Category	Time	Time Zone	User	Host
Run ended on port 1 (Number of wells acquired: 13)		Instrument	Run		1/5/2016 1:43:22 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Run started on port 1 (File: C:\Documents and Settings\Bioanalyzer\2016-01-05\2016-01-05_001.xad)		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Product Number : G2938B		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Name :		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Vendor : Agilent Technologies		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Serial# : DE13701086		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Firmware : C.01.069		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1
Cartridge : Electrode		Instrument	Run		1/5/2016 1:19:40 PM	(GMT --08:00) Pacific Standard Time	UC Davis	D8XSMGH1