

```

> path<-"C:\\NqA"

> setwd(path)

> #####

> ##### Call NqA code #####

> #####

> source('C:\\NqA\\NqA_codex.R')

>

>

> #####

> ##### Define NqA arguments #####

> #####

>

> nomifiles<-c("1.1Inputfile.dat")

> nominorm<-c("U6 snRNA-001973", "MammU6-4395470")

> q<-nqa(nomifiles, 0.05, 0.05, 0.80, "1.2Inputfile.dat", 40, nominorm)

[1] "1. DETECTION"

[1] "Number of samples in which each specific miRNA was detected according to Controls and Cases:"

```

	Controls	Cases
has-miR-1305-002867	20	20
has-miR-155-4395459	20	20
hsa-let-7b-4395446	11	7
hsa-let-7c-4373167	5	3
hsa-let-7d-4395394	15	10
hsa-let-7e-4395517	11	5
hsa-let-7g-4395393	7	3
hsa-miR-1-4395333	3	2
hsa-miR-100x-002142	5	4
hsa-miR-101-4395364	5	7
hsa-miR-106a-4395280	17	19
hsa-miR-106b-4373155	20	20
hsa-miR-106bx-002380	2	2
hsa-miR-1180-002847	3	3

hsa-miR-1183-002841	15	17
hsa-miR-1208-002880	5	8
hsa-miR-122-4395356	7	11
hsa-miR-1225-3P-002766	4	3
hsa-miR-1227-002769	2	4
hsa-miR-1233-002768	5	9
hsa-miR-1243-002854	19	20
hsa-miR-1253-002894	10	11
hsa-miR-1255B-002801	4	3
hsa-miR-125a-5p-4395309	14	13
hsa-miR-125b-4373148	10	8
hsa-miR-126-4395339	20	20
hsa-miR-1260-002896	18	20
hsa-miR-1262-002852	12	11
hsa-miR-1267-002885	11	13
hsa-miR-126x-000451	19	15
hsa-miR-127-3p-4373147	9	10
hsa-miR-1274A-002883	20	19
hsa-miR-1274B-002884	20	20
hsa-miR-1275-002840	15	20
hsa-miR-1276-002843	17	17
hsa-miR-1285-002822	2	2
hsa-miR-1289-002871	8	11
hsa-miR-1290-002863	20	20
hsa-miR-1291-002838	6	3
hsa-miR-1298-002861	18	18
hsa-miR-130a-4373145	5	6
hsa-miR-130b-4373144	2	3
hsa-miR-136-4373173	4	2
hsa-miR-139-3p-4395424	3	4
hsa-miR-139-5p-4395400	13	14
hsa-miR-140-3p-4395345	2	2
hsa-miR-140-5p-4373374	5	4

hsa-miR-141x-002145	9	7
hsa-miR-142-3p-4373136	18	20
hsa-miR-142-5p-4395359	5	7
hsa-miR-144x-002148	2	2
hsa-miR-145-4395389	11	10
hsa-miR-146a-4373132	18	20
hsa-miR-146b-5p-4373178	8	7
hsa-miR-147-4373131	8	5
hsa-miR-148a-4373130	6	8
hsa-miR-148b-4373129	4	3
hsa-miR-148bx-002160	6	10
hsa-miR-150-4373127	20	20
hsa-miR-151-3p-002254	20	20
hsa-miR-151-5P-002642	11	8
hsa-miR-152-4395170	12	11
hsa-miR-16-4373121	20	20
hsa-miR-17-4395419	18	16
hsa-miR-181a-4373117	4	4
hsa-miR-1825-002907	16	16
hsa-miR-184-4373113	10	12
hsa-miR-185-4395382	2	2
hsa-miR-186-4395396	20	19
hsa-miR-18ax-002423	2	2
hsa-miR-190-4373110	6	9
hsa-miR-190b-002263	17	17
hsa-miR-191-4395410	20	20
hsa-miR-191x-002678	4	2
hsa-miR-192-4373108	15	14
hsa-miR-193b-4395478	2	8
hsa-miR-194-4373106	15	14
hsa-miR-195-4373105	20	19
hsa-miR-197-4373102	18	17
hsa-miR-199a-3p-4395415	11	8

hsa-miR-19a-4373099	8	7
hsa-miR-19b-1x-002425	20	20
hsa-miR-19b-4373098	19	15
hsa-miR-200ax-001011	2	4
hsa-miR-202-4395474	20	20
hsa-miR-203-4373095	7	12
hsa-miR-206-000510	19	19
hsa-miR-20a-4373286	18	12
hsa-miR-20b-4373263	5	3
hsa-miR-21-4373090	13	14
hsa-miR-211-4373088	8	7
hsa-miR-212-4373087	19	20
hsa-miR-215-4373084	3	4
hsa-miR-218-4373081	20	20
hsa-miR-221-4373077	13	10
hsa-miR-222-4395387	20	20
hsa-miR-223-4395406	20	20
hsa-miR-223x-002098	9	3
hsa-miR-22x-002301	3	2
hsa-miR-23ax-002439	12	11
hsa-miR-24-4373072	19	20
hsa-miR-25-4373071	20	20
hsa-miR-26a-4395166	12	10
hsa-miR-26b-4395167	14	12
hsa-miR-27a-4373287	20	20
hsa-miR-27b-4373068	10	9
hsa-miR-28-3p-4395557	19	17
hsa-miR-28-5p-4373067	11	13
hsa-miR-296-5p-4373066	13	12
hsa-miR-299-5p-4373188	8	9
hsa-miR-29a-4395223	20	20
hsa-miR-29c-4395171	20	20
hsa-miR-301a-4373064	6	4

hsa-miR-301b-4395503	5	2
hsa-miR-302a-4378070	18	18
hsa-miR-302b-4378071	9	12
hsa-miR-302c-4378072	6	6
hsa-miR-302d-000535	9	12
hsa-miR-30a-3p-000416	13	10
hsa-miR-30a-5p-000417	20	20
hsa-miR-30b-4373290	20	20
hsa-miR-30c-4373060	20	20
hsa-miR-30d-000420	20	17
hsa-miR-30e-3p-000422	19	17
hsa-miR-320-4395388	20	20
hsa-miR-320B-002844	15	15
hsa-miR-323-3p-4395338	20	20
hsa-miR-324-3p-4395272	6	5
hsa-miR-324-5p-4373052	10	9
hsa-miR-328-4373049	20	19
hsa-miR-331-3p-4373046	12	11
hsa-miR-331-5p-4395344	18	18
hsa-miR-335-4373045	15	16
hsa-miR-335x-002185	10	14
hsa-miR-338-5P-002658	19	18
hsa-miR-339-3p-4395295	2	2
hsa-miR-340-4395369	3	2
hsa-miR-340x-002259	7	5
hsa-miR-342-3p-4395371	19	20
hsa-miR-345-4395297	17	16
hsa-miR-34a-4395168	6	8
hsa-miR-34ax-002316	9	11
hsa-miR-34b-002102	13	16
hsa-miR-34c-5p-4373036	5	3
hsa-miR-361-5p-4373035	18	18
hsa-miR-363-4378090	20	20

hsa-miR-367-4373034	16	16
hsa-miR-369-5p-4373195	3	3
hsa-miR-373-4378073	10	14
hsa-miR-374a-4373028	19	20
hsa-miR-374b-4381045	6	8
hsa-miR-375-4373027	8	3
hsa-miR-376a-4373026	20	20
hsa-miR-376c-4395233	8	5
hsa-miR-378-002243	20	20
hsa-miR-381-4373020	8	7
hsa-miR-383-4373018	9	11
hsa-miR-409-3p-002332	18	18
hsa-miR-410-4378093	9	13
hsa-miR-422a-4395408	16	16
hsa-miR-423-5p-4395451	6	5
hsa-miR-425x-002302	5	2
hsa-miR-432-001026	13	12
hsa-miR-433-4373205	2	2
hsa-miR-451-4373360	20	18
hsa-miR-454-4395434	14	16
hsa-miR-483-5p-4395449	20	20
hsa-miR-484-4381032	9	10
hsa-miR-485-3p-4378095	19	20
hsa-miR-486-3p-4395204	5	6
hsa-miR-486-5p-4378096	10	7
hsa-miR-487b-4378102	8	9
hsa-miR-489-4395469	16	17
hsa-miR-491-5p-4381053	4	4
hsa-miR-494-4395476	7	7
hsa-miR-502-5p-4373227	18	16
hsa-miR-505x-002087	7	4
hsa-miR-509-5p-4395346	9	8
hsa-miR-511-4373236	3	2

hsa-miR-516-3p-001149	16	16
hsa-miR-517c-4373264	7	2
hsa-miR-518f-4395499	19	19
hsa-miR-519a-4395526	4	2
hsa-miR-519b-3p-002384	14	15
hsa-miR-519d-4395514	3	3
hsa-miR-519e-4395481	5	4
hsa-miR-520b-4373252	20	20
hsa-miR-520c-3p-002400	20	20
hsa-miR-520D-3P-002743	18	18
hsa-miR-520d-5p-4395504	9	11
hsa-miR-520e-4373255	9	11
hsa-miR-520f-4373256	11	12
hsa-miR-523-4395497	19	20
hsa-miR-532-3p-4395466	4	4
hsa-miR-542-3p-4378101	2	6
hsa-miR-548a-3p-4380948	7	12
hsa-miR-548c-3p-4380993	4	2
hsa-miR-548c-5p-4395540	12	14
hsa-miR-549-001511	2	5
hsa-miR-551b-4380945	15	12
hsa-miR-551bx-002346	9	10
hsa-miR-557-001525	5	4
hsa-miR-564-001531	3	3
hsa-miR-571-001613	9	5
hsa-miR-572-001614	15	17
hsa-miR-573-001615	11	16
hsa-miR-574-3p-4395460	19	19
hsa-miR-576-3p-4395462	18	18
hsa-miR-577-002675	7	6
hsa-miR-581-001622	9	14
hsa-miR-582-3p-4395510	12	15
hsa-miR-584-001624	12	16

hsa-miR-586-001539	12	11
hsa-miR-590-3P-002677	5	2
hsa-miR-590-5p-4395176	8	7
hsa-miR-597-4380960	20	18
hsa-miR-601-001558	18	18
hsa-miR-615-3p-4386777	4	3
hsa-miR-618-4380996	20	20
hsa-miR-623-001555	5	6
hsa-miR-624-001557	17	18
hsa-miR-625x-002432	20	20
hsa-miR-627-4380967	11	5
hsa-miR-628-3p-002434	4	3
hsa-miR-628-5p-4395544	16	15
hsa-miR-636-4395199	20	20
hsa-miR-638-001582	18	17
hsa-miR-642-4380995	15	18
hsa-miR-645-001597	18	18
hsa-miR-646-001599	2	3
hsa-miR-652-4395463	9	11
hsa-miR-656-001510	2	3
hsa-miR-659-001514	9	11
hsa-miR-662-001607	7	7
hsa-miR-664-002897	9	12
hsa-miR-671-3p-4395433	4	2
hsa-miR-708-4395452	20	18
hsa-miR-720-002895	20	20
hsa-miR-744-4395435	7	8
hsa-miR-758-4395180	6	7
hsa-miR-766-001986	18	16
hsa-miR-770-5p-002002	9	9
hsa-miR-872-4395375	4	2
hsa-miR-874-4395379	2	3
hsa-miR-875-5p-002203	20	20

hsa-miR-885-5p-4395407	9	11
hsa-miR-886-5p-4395304	2	4
hsa-miR-888-4395323	19	18
hsa-miR-892b-002214	16	17
hsa-miR-92a-4395169	20	20
hsa-miR-93-4373302	7	4
hsa-miR-93x-002139	7	6
hsa-miR-942-002187	13	12
hsa-miR-99b-4373007	4	4
hsa-miR-9x-002231	5	3
MammU6-4395470	20	20
U6 snRNA-001973	20	20

[1] "There are 38 miRNAs detected in all samples out of 257 evaluated (14.786 %)"

[1] "List of miRNAs detected in all samples"

miRNA Frequency

1	has-miR-1305-002867	40
2	has-miR-155-4395459	40
3	hsa-miR-106b-4373155	40
4	hsa-miR-126-4395339	40
5	hsa-miR-1274B-002884	40
6	hsa-miR-1290-002863	40
7	hsa-miR-150-4373127	40
8	hsa-miR-151-3p-002254	40
9	hsa-miR-16-4373121	40
10	hsa-miR-191-4395410	40
11	hsa-miR-19b-1x-002425	40
12	hsa-miR-202-4395474	40
13	hsa-miR-218-4373081	40
14	hsa-miR-222-4395387	40
15	hsa-miR-223-4395406	40
16	hsa-miR-25-4373071	40
17	hsa-miR-27a-4373287	40
18	hsa-miR-29a-4395223	40

19	hsa-miR-29c-4395171	40
20	hsa-miR-30a-5p-000417	40
21	hsa-miR-30b-4373290	40
22	hsa-miR-30c-4373060	40
23	hsa-miR-320-4395388	40
24	hsa-miR-323-3p-4395338	40
25	hsa-miR-363-4378090	40
26	hsa-miR-376a-4373026	40
27	hsa-miR-378-002243	40
28	hsa-miR-483-5p-4395449	40
29	hsa-miR-520b-4373252	40
30	hsa-miR-520c-3p-002400	40
31	hsa-miR-618-4380996	40
32	hsa-miR-625x-002432	40
33	hsa-miR-636-4395199	40
34	hsa-miR-720-002895	40
35	hsa-miR-875-5p-002203	40
36	hsa-miR-92a-4395169	40
37	MammU6-4395470	40
38	U6 snRNA-001973	40

[1] "2. VARIABILITY"

[1] "There are 8 miRNAs with CV <= 20th centile (5.5529 %)"

[1] "List of miRNAs with CV <= 20th centile"

	Detector	CV Rank	
33	hsa-miR-636-4395199	3.47565	1
22	hsa-miR-30c-4373060	3.76441	2
21	hsa-miR-30b-4373290	3.85750	3
26	hsa-miR-376a-4373026	4.13220	4
31	hsa-miR-618-4380996	4.16550	5
7	hsa-miR-150-4373127	4.17702	6
28	hsa-miR-483-5p-4395449	4.97325	7
29	hsa-miR-520b-4373252	5.39467	8

[1] "3. INVARIANCE BETWEEN COMPARISON GROUPS"

[1] "List of miRNAs differentially expressed between Cases and Controls by using the overall mean as normalization method"

miRNA K-W p-value

1 MammU6-4395470 0.000260447

2 U6 snRNA-001973 0.009409435

3 hsa-miR-483-5p-4395449 0.013316186

4 hsa-miR-1290-002863 0.034866372

[1] "4. CO-REGULATION"

[1] "Message: There aren't co-regulated miRNAs"

[1] "5. STABILITY"

[1] "Rank of the candidate reference miRNAs by jointly considering geNorm and NormFinder softwares:"

Candidate_Reference Rank

[1,] "hsa-miR-30c-4373060" "2"

[2,] "hsa-miR-30b-4373290" "5"

[3,] "hsa-miR-636-4395199" "7"

[4,] "hsa-miR-618-4380996" "7"

[5,] "hsa-miR-150-4373127" "9"

[6,] "hsa-miR-376a-4373026" "11"

[7,] "hsa-miR-520b-4373252" "14"

[1] "6. AGREEMENT"

[1] "Kappa Statistic: 0.7206 95%CI[0.4026 , 1] corresponding to the best set of reference miRNAs"

[1] "Best set of reference miRNAs:"

Reference miRNAs

1 hsa-miR-30c-4373060

2 hsa-miR-30b-4373290

[1] "The number of miRNAs belonging to the best set is: 2"

[1] "7. SUMMARY OF THE RESULTS:"

	miRNA	Median(Cases)	Median(Controls)	Fold Change	-log10(KW p-value)	KW p-value
28	hsa-miR-483-5p-4395449	-2.725	-4.175	1.450	3.6331260	0.000232742
37	MammU6-4395470	-5.075	-2.625	-2.450	3.1427431	0.000719875
5	hsa-miR-1274B-002884	2.150	1.200	0.950	2.3292877	0.004685029
38	U6 snRNA-001973	-5.875	-3.600	-2.275	2.0267445	0.009402764
6	hsa-miR-1290-002863	-0.575	-3.200	2.625	1.0918033	0.080946240
9	hsa-miR-16-4373121	-1.575	-1.225	-0.350	0.9459101	0.113263483
7	hsa-miR-150-4373127	0.200	0.500	-0.300	0.8758184	0.133101085
15	hsa-miR-223-4395406	3.475	3.825	-0.350	0.7543597	0.176051719
35	hsa-miR-875-5p-002203	-1.350	-3.875	2.525	0.5634555	0.273240119
27	hsa-miR-378-002243	0.100	-1.450	1.550	0.4813726	0.330086202
11	hsa-miR-19b-1x-002425	-0.700	-5.825	5.125	0.4813428	0.330108890
16	hsa-miR-25-4373071	-2.675	-2.550	-0.125	0.4727425	0.336711185
3	hsa-miR-106b-4373155	-1.200	-1.575	0.375	0.4726547	0.336779223
17	hsa-miR-27a-4373287	-3.575	-3.250	-0.325	0.4129424	0.386418251
23	hsa-miR-320-4395388	-1.175	-1.825	0.650	0.3800798	0.416792812
31	hsa-miR-618-4380996	-2.350	-2.875	0.525	0.3482066	0.448531957
20	hsa-miR-30a-5p-000417	-0.425	-0.825	0.400	0.3325598	0.464986298
30	hsa-miR-520c-3p-002400	-0.900	-5.000	4.100	0.3247168	0.473459878
21	hsa-miR-30b-4373290	-0.425	-0.375	-0.050	0.2809509	0.523659654
8	hsa-miR-151-3p-002254	-0.900	-1.625	0.725	0.2726654	0.533745931
32	hsa-miR-625x-002432	-4.550	-5.950	1.400	0.2582818	0.551719338
22	hsa-miR-30c-4373060	0.425	0.375	0.050	0.2379082	0.578218284
1	has-miR-1305-002867	5.925	4.750	1.175	0.2371977	0.579164957
36	hsa-miR-92a-4395169	0.850	0.600	0.250	0.2168121	0.606998926
29	hsa-miR-520b-4373252	-3.000	-3.325	0.325	0.2100132	0.616576253
26	hsa-miR-376a-4373026	-3.700	-3.600	-0.100	0.2033104	0.626166108
33	hsa-miR-636-4395199	-6.850	-6.900	0.050	0.1967107	0.635754347
24	hsa-miR-323-3p-4395338	-5.175	-6.275	1.100	0.1835793	0.655270684
12	hsa-miR-202-4395474	-4.125	-3.200	-0.925	0.1771034	0.665114782
34	hsa-miR-720-002895	-1.425	-1.675	0.250	0.1644899	0.684715334
2	has-miR-155-4395459	0.400	0.375	0.025	0.1644278	0.684813379

14	hsa-miR-222-4395387	-1.375	-1.625	0.250	0.1581428	0.694795831
4	hsa-miR-126-4395339	-0.925	-0.900	-0.025	0.1335825	0.735220336
19	hsa-miR-29c-4395171	-4.800	-7.050	2.250	0.1158117	0.765928618
10	hsa-miR-191-4395410	-0.525	-0.275	-0.250	0.0984645	0.797141568
18	hsa-miR-29a-4395223	-1.325	-0.950	-0.375	0.0816238	0.828659586
25	hsa-miR-363-4378090	2.825	2.650	0.175	0.0706883	0.849790172
13	hsa-miR-218-4373081	-0.100	0.000	-0.100	0.0652905	0.860418014

>