1# One gene for one patient

SELECT gi.gene\_id, gi.gene\_short\_name FROM gene\_info gi WHERE

(gi.id IN ( SELECT g.gene\_id FROM gene\_fpkm g, sample s WHERE (s.sample\_id=g.sample\_id) AND (s.sample\_id=1) ));

2# One gene for all patients

SELECT gi.gene\_id, gi.gene\_short\_name FROM gene\_info gi

WHERE NOT EXISTS(SELECT s.sample\_id FROM sample s

WHERE NOT EXISTS(SELECT g.sample\_id FROM gene\_fpkm g

WHERE g.sample\_id=s.sample\_id AND g.gene\_id = gi.id));

3# One isoform for one patient

SELECT ii.iso\_id, i.nearest\_ref\_id FROM isoform\_fpkm i, isoform\_info ii WHERE (ii.id = i.isoform\_id) AND

(i.sample\_id IN (SELECT s.sample\_id FROM sample s WHERE s.sample\_id = 16));

4# One isoform for all patients

SELECT distinct(ii.iso\_id), i1.nearest\_ref\_id FROM isoform\_info ii, isoform\_fpkm i1

WHERE NOT EXISTS (SELECT s.sample\_id FROM sample s

WHERE NOT EXISTS (SELECT i.sample\_id FROM isoform\_fpkm i

WHERE i.sample\_id=s.sample\_id AND i.isoform\_id = ii.id AND i1.isoform\_id = ii.id));

5# One tss for one patient

SELECT ti.tss\_id FROM tss\_info ti WHERE ti.id IN (SELECT t.tss\_id FROM tss\_fpkm t, sample s WHERE s.sample\_id = t.sample\_id AND s.sample\_id=3);

6# One tss for all patients

SELECT ti.tss\_id FROM tss\_info ti

WHERE NOT EXISTS(SELECT s.sample\_id FROM sample s

WHERE NOT EXISTS (SELECT t.sample\_id FROM tss\_fpkm t

WHERE t.sample\_id=s.sample\_id AND t.tss\_id = ti.id));

7# Select all genes for particular patient expressing >X expression

SELECT gi.gene\_id, gi.gene\_short\_name FROM gene\_info gi WHERE (gi.id IN

( SELECT g.gene\_id FROM gene\_fpkm g, sample s WHERE (g.sample\_fpkm > 1) AND (s.sample\_id=g.sample\_id) AND (s.sample\_id=1)));

8# Select all genes for all patient expressing >X expression

SELECT gi.gene\_id, gi.gene\_short\_name FROM gene\_info gi

WHERE NOT EXISTS

(SELECT s.sample\_id FROM sample s

WHERE NOT EXISTS

(SELECT g.sample\_id FROM gene\_fpkm g WHERE (g.sample\_fpkm > 1)

AND (g.sample\_id=s.sample\_id) AND (g.gene\_id = gi.id) ) );

9# Select expression for (text box) for specific patient. (gene\_short\_name as input not working).

SELECT gi.gene\_id ,gi.gene\_short\_name, g.sample\_fpkm FROM gene\_info gi, gene\_fpkm g, sample s WHERE

s.sample\_id = 16 AND s.sample\_id = g.sample\_id AND g.gene\_id = gi.id AND gi.id =1;

10# Select expression for (text box) for all patient.

SELECT gi.gene\_id, gi.gene\_short\_name, g.sample\_fpkm, g.sample\_id FROM gene\_info gi, gene\_fpkm g WHERE g.gene\_id = gi.id AND gi.id =1;

11# Within X distance from a location what genes expressing > Y for X number of patients.

SELECT gi.gene\_short\_name, g.sample\_id, g.chromosome, g.start, g.end, g.sample\_fpkm FROM gene\_info gi, gene\_fpkm g

WHERE g.gene\_id = gi.id AND g.sample\_id =1 AND g.chromosome = 1 AND g.start BETWEEN 11188 AND 31109 AND

g.end BETWEEN 11188 AND 31109 AND g.sample\_fpkm >= 0;

12#Within X distance from a location what isoform expressing > Y for X number of patients.

SELECT gi.gene\_short\_name,i.nearest\_ref\_id , i.sample\_id, i.chromosome, i.start, i.end, i.sample\_FPKM FROM gene\_info gi, isoform\_fpkm i

WHERE i.gene\_id = gi.id AND i.sample\_id =1 AND i.chromosome = 1 AND i.start between 11188 AND 31109 AND

i.end BETWEEN 11188 AND 31109 AND i.sample\_FPKM >= 0;

13#Within X distance from a location what isoform expressing > Y for X number of patients.

SELECT gi.gene\_short\_name,t.sample\_id, t.chromosome, t.start, t.end, t.sample\_FPKM

FROM gene\_info gi, tss\_fpkm t WHERE t.gene\_id = gi.id AND t.sample\_id =1 AND t.chromosome = 1 AND t.start between 11188 AND 31109 AND

t.end BETWEEN 11188 AND 31109 AND t.sample\_FPKM >= 0;

14# What is the expression of the isoforms of a particular gene for specific patient. pop up the gene\_short name.

SELECT gi.id, gi.gene\_short\_name, i.sample\_FPKM FROM isoform\_fpkm i, gene\_info gi WHERE (gi.id = i.gene\_id and gi.id = 2) AND

(i.sample\_id IN (SELECT s.sample\_id FROM sample s WHERE s.sample\_id = 2));

15# What is the expression of the isoforms of a particular gene for all patient.

SELECT gi.gene\_id, gi.gene\_short\_name, i.nearest\_ref\_id ,i.sample\_FPKM, i.sample\_id FROM gene\_info gi, isoform\_fpkm i WHERE i.gene\_id = gi.id and gi.id =1;

16# What genes expressed for a particular sample but NOT in another. gene\_shortname if sample 1(fpkm!=0) and sample 2 (fpkm=0)1

SELECT gi.gene\_id, gi.gene\_short\_name FROM gene\_info gi WHERE (gi.id IN

( SELECT g.gene\_id FROM gene\_fpkm g, sample s WHERE s.sample\_id=g.sample\_id AND s.sample\_id=1 AND g.sample\_fpkm <> 0 )) AND

(gi.gene\_id NOT IN (SELECT gi1.gene\_id FROM gene\_info gi1 WHERE gi1.id IN ( SELECT g1.gene\_id FROM gene\_fpkm g1, sample s1 WHERE

s1.sample\_id=g1.sample\_id AND s1.sample\_id=2 AND g1.sample\_fpkm =0 )));

17# What isoform expressed for a particular sample but NOT in another. pop up nearest\_ref\_id ( Need to work)

SELECT ii.iso\_id FROM isoform\_info ii WHERE (ii.id IN

( SELECT i.gene\_id FROM isoform\_fpkm i, sample s WHERE s.sample\_id=i.sample\_id AND s.sample\_id=1 AND i.sample\_FPKM <> 0)) AND

(ii.iso\_id NOT IN (SELECT ii1.iso\_id FROM isoform\_info ii1 WHERE ii1.id IN (SELECT i1.gene\_id FROM isoform\_fpkm i1, sample s1 WHERE

s1.sample\_id=i1.sample\_id AND s1.sample\_id=2 AND i1.sample\_FPKM = 0 )));

18# What tss expressed for a particular sample but NOT in another.

SELECT ti.tss\_id FROM tss\_info ti WHERE (ti.id IN

( SELECT t.tss\_id FROM tss\_fpkm t, sample s WHERE s.sample\_id=t.sample\_id AND s.sample\_id=1 AND t.sample\_fpkm <> 0)) AND

( ti.tss\_id NOT IN (SELECT ti1.tss\_id FROM tss\_info ti1 WHERE ti1.id IN ( SELECT t1.tss\_id FROM tss\_fpkm t1, sample s1 WHERE

s1.sample\_id=t1.sample\_id AND s1.sample\_id=3 AND t1.sample\_fpkm =0 )));