SQL

Create a free SQL database:

Create a new database by login into free SQL database(https://www.freesqldatabase.com/).

The free Database that has been created has a limit of 5MB.

Account Details

Account Number	Available Databases	Available Space
837148	0 of 1	0% of 5.00MB

After creating the database login into the phpMyAdmin for database administration (http://www.phpmyadmin.co/). The login is done with database host, database name and username and password.

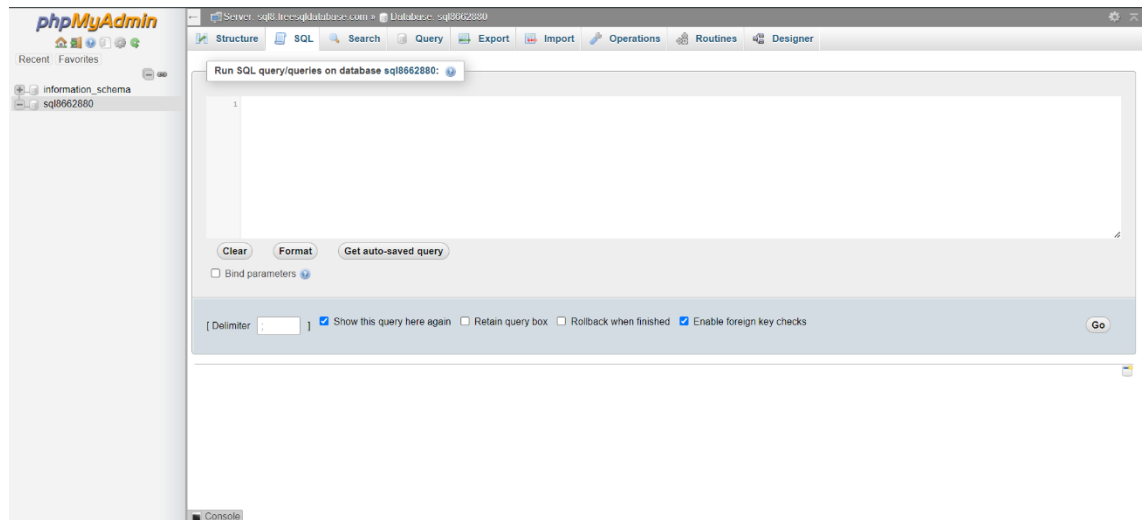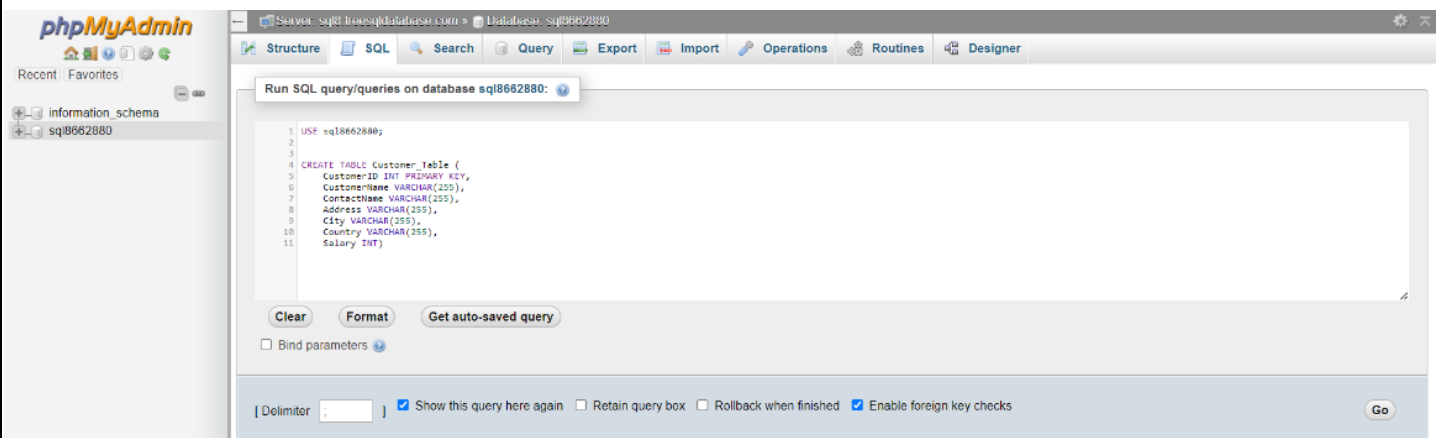| Database Host	Database Name	Database Username	Database Password	Size	Status	Delete
sql8.freesqldatabase.com	sql8662880	sql8662880	Check your emails	0.00MB	Live	☐

Delete database

Php my Admin interface:
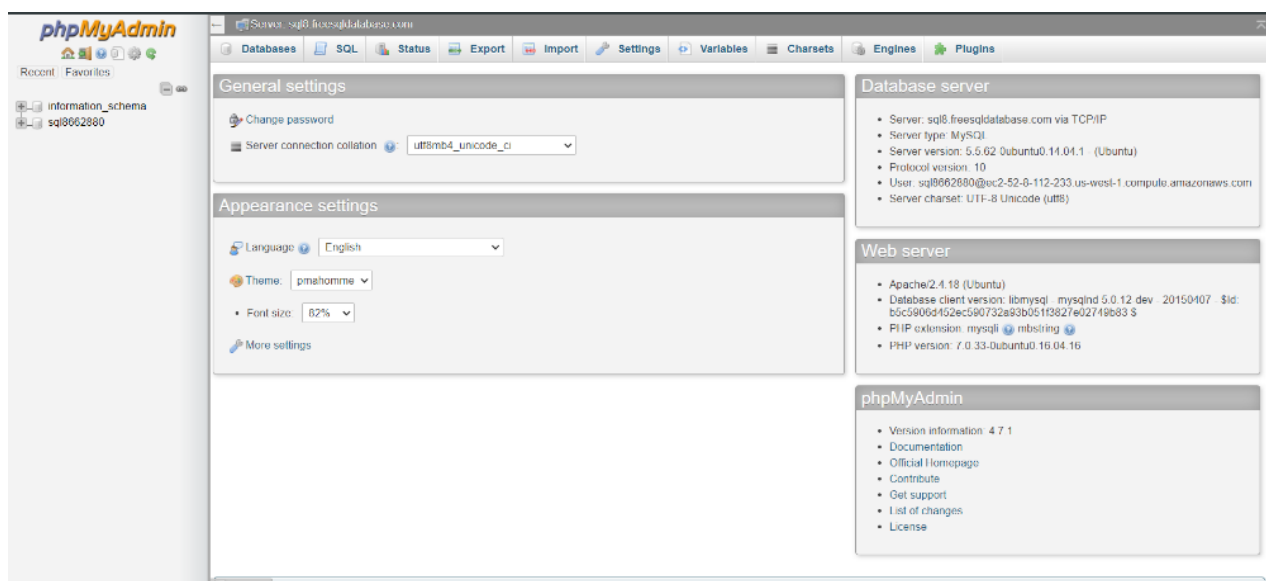
Executing the SQL Commands:
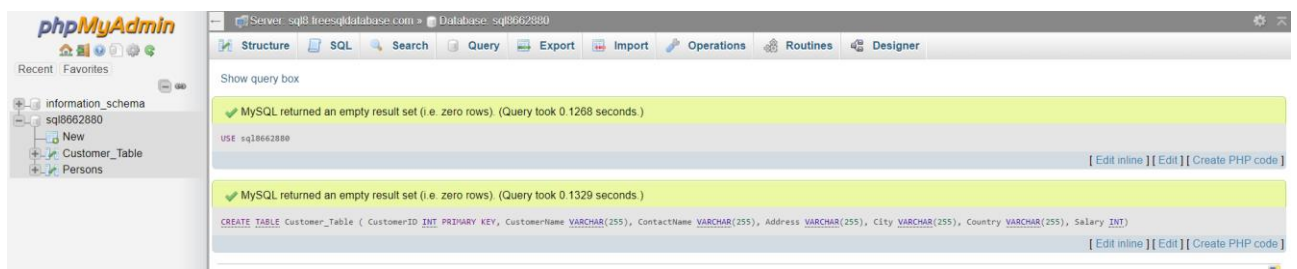
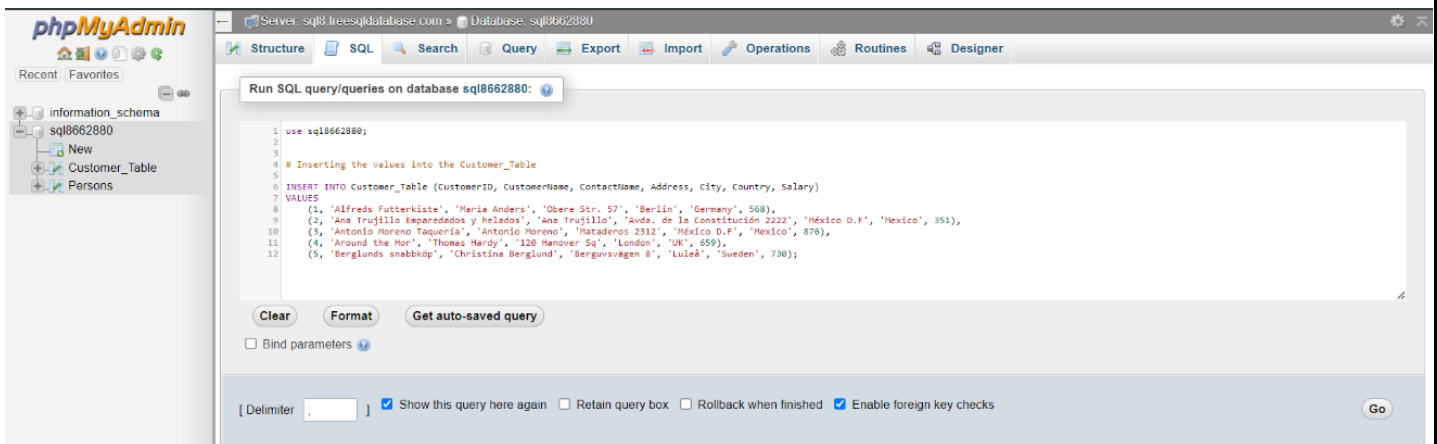Switch to the SQL option in the Tab menu for executing SQL commands:

Use the database and create a Table

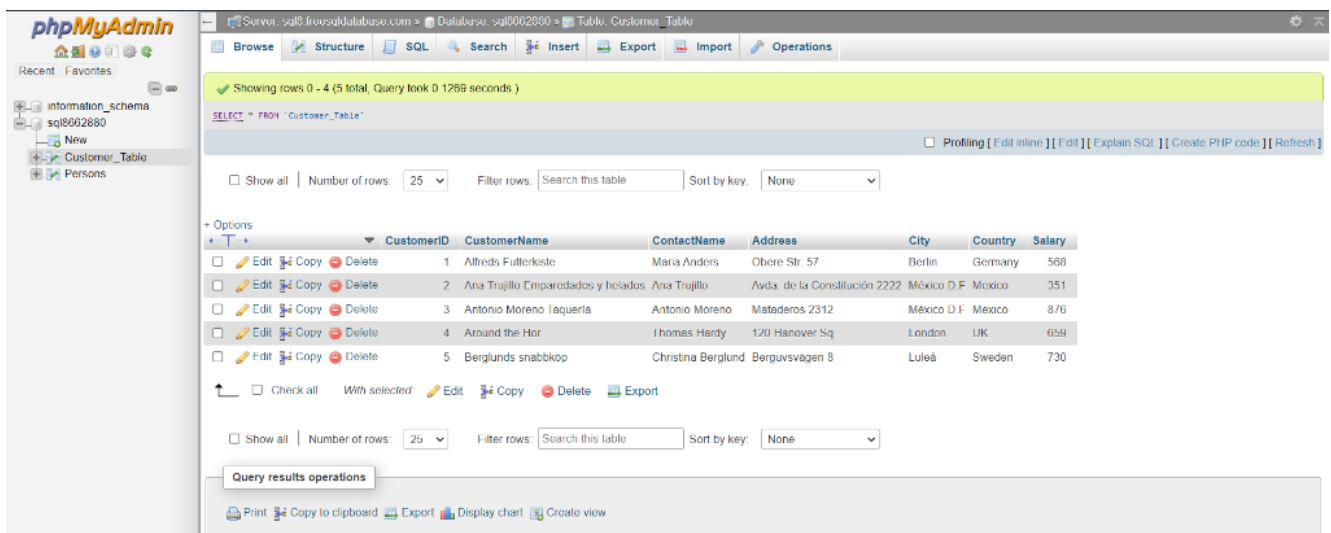Click the Go button and the table has been created with given column names. Now see the Table has been created.

Inserting the values into the Table:

Tables with values:

1.Select operation

#Query


```
1
2
3  SELECT CustomerName,Country FROM Customer_Table;
```

#Output:

CustomerName	Country
Alfreds Futterkiste	Germany
Ana Trujillo Emparedados y helados	Mexico
Antonio Moreno Taquería	Mexico
Around the Hor	UK
Berglunds snabbköp	Sweden

2.Where

#query

```
3  SELECT * FROM Customer_Table
4  WHERE Country='Mexico';
```

#Output:

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F	Mexico	351
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

ected: Edit   Copy   Delete   Export

3.Order

#Query

```
1  SELECT * FROM Customer_Table
2  ORDER BY Salary;
```

Output

CustomerID	CustomerName	ContactName	Address	City	Country	Salary ▲ 1
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F	Mexico	351
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	Germany	568
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

4

4.AND and OR

Query:

```
1  SELECT * FROM Customer_Table
2  WHERE Country = 'Mexico'
3  AND  Salary> 500;
```

#Output:

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

5.Update:

#Query:

```
1  UPDATE Customer_Table
2  SET ContactName='Juan'
3  WHERE Country='Mexico';
```

#Output:

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	Germany	568
2	Ana Trujillo Emparedados y helados	Juan	Avda. de la Constitución 2222	México D.F	Mexico	351
3	Antonio Moreno Taquería	Juan	Mataderos 2312	México D.F	Mexico	876
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730

6.Drop Table

```
1  USE sql8662880;
2  DROP TABLE Persons;
```

5

#Output
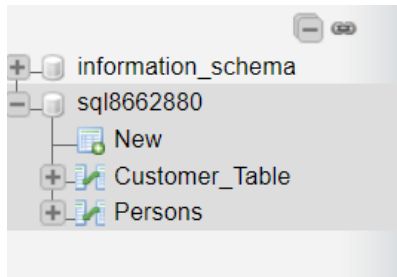
Before Drop	After Drop
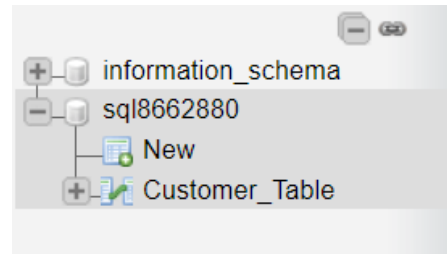
7.DELETE

#Query

```
1  DELETE FROM Customers_Table WHERE CustomerName='Alfreds Futterkiste';
```

#Output

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
2	Ana Trujillo Emparedados y helados	Juan	Avda. de la Constitución 2222	México D.F	Mexico	351
3	Antonio Moreno Taquería	Juan	Mataderos 2312	México D.F	Mexico	876
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730

Sample cancer csv dataset loaded:

8.Between and And

#Query

```
1  SELECT * FROM sample_cancer_dataset
2  WHERE Total patients BETWEEN 10 AND 20
3  AND Tumor =="carcinoid";
```

6

#Output:

Gene	Gene_name	Tumor	Level	Count_patients	Totalpatients	Expression_type
ENSG00000002586	CD99	breast cancer	Medium	3	11	Staining
ENSG00000002586	CD99	breast cancer	Low	2	11	Staining
ENSG00000002586	CD99	breast cancer	Not detected	6	11	Staining
ENSG00000000457	SCYL3	breast cancer	Not detected	8	12	Staining
ENSG00000000460	C1orf112	breast cancer	High	1	12	Staining
ENSG00000000460	C1orf112	breast cancer	Medium	8	12	Staining
ENSG00000000460	C1orf112	breast cancer	Low	1	12	Staining
ENSG00000000460	C1orf112	breast cancer	Not detected	2	12	Staining
ENSG00000000938	FGR	breast cancer	High	0	12	Staining
ENSG00000000938	FGR	breast cancer	Medium	1	12	Staining
ENSG00000000938	FGR	breast cancer	Low	11	12	Staining
ENSG00000000938	FGR	breast cancer	Not detected	0	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	High	0	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Medium	2	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Low	5	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Not detected	5	12	Staining

9.INNER Join Query:

#Query:

```
1  SELECT sample_subcellular_Data.Gene
2  FROM sample_subcellular_Data
3  INNER JOIN sample_cancer_dataset ON sample_subcellular_Data.Gene = sample_cancer_dataset.Gene;
```

#output

Gene
ne
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000460
ENSG00000000460
ENSG00000000460
ENSG00000000460
ENSG00000000938
ENSG00000000938
ENSG00000000938
ENSG00000000938
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777

10.Left Join:

#Query:

7

```
1  SELECT Tumor,Level,Count_patients
2  FROM sample_cancer_dataset
3  LEFT JOIN sample_subcellular_Data
4  ON sample_subcellular_Data.Gene = sample_cancer_dataset.Gene;
5
```

Output

Tumor	Level	Count_patients
Tumor	Level	0
breast cancer	Medium	3
breast cancer	Low	2
breast cancer	Not detected	6
carcinoid	High	0
carcinoid	Medium	3
breast cancer	Not detected	8
carcinoid	High	0
carcinoid	Medium	0
carcinoid	Low	3
carcinoid	Not detected	1
breast cancer	High	1
breast cancer	Medium	8
breast cancer	Low	1
breast cancer	Not detected	2
breast cancer	High	0
breast cancer	Medium	1
breast cancer	Low	11
breast cancer	Not detected	0
carcinoid	Medium	2
carcinoid	Low	2
carcinoid	Not detected	0
cervical cancer	High	0
cervical cancer	Medium	2
cervical cancer	Low	5

11.Groupby

Query

```
1  SELECT Level, Tumor, COUNT(*) AS Count
2  FROM sample_cancer_dataset
3  GROUP BY Level, Tumor;
```

output

8

Level	Tumor	Count
High	breast cancer	2
High	carcinoid	2
High	cervical cancer	1
Level	Tumor	1
Low	breast cancer	3
Low	carcinoid	2
Low	cervical cancer	1
Medium	breast cancer	3
Medium	carcinoid	3
Medium	cervical cancer	1
Not detected	breast cancer	4
Not detected	carcinoid	2
Not detected	cervical cancer	1

12.Joining Two Tables

#Query

```sql
SELECT *
FROM sample_subcellular_Data
LEFT JOIN sample_cancer_dataset ON sample_cancer_dataset.Gene = sample_subcellular_Data.Gene

UNION

SELECT *
FROM sample_cancer_dataset
LEFT JOIN sample_subcellular_Data ON sample_cancer_dataset.Gene = sample_subcellular_Data.Gene
LIMIT 0, 25;
```

#Output

Gene	Gene_name	Main_location	Other_location	Expression_type	Reliability	Main_location_GO_id	Other_location_GO_id	Gene	Gene_name	Tumor	Level	Count_patients	Totalpatients	Expression_type
ENSG00000000003	TSPAN6	Cytoplasm		APE	Uncertain	GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000000457	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli;Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000457	SCYL3	breast cancer	Not detected	8	12	Staining
ENSG00000000457	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli;Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000457	SCYL3	carcinoid	High	0	4	Staining
ENSG00000000457	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli;Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000457	SCYL3	carcinoid	Medium	0	4	Staining
ENSG00000000457	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli;Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000457	SCYL3	carcinoid	Low	3	4	Staining
ENSG00000000457	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli;Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000457	SCYL3	carcinoid	Not detected	1	4	Staining
ENSG00000000460	C1orf112	Nucleus but not nucleoli;Mitochondria		APE	Uncertain	GO:0005654;GO:0005739		ENSG00000000460	C1orf112	breast cancer	High	1	12	Staining
ENSG00000000460	C1orf112	Nucleus but not nucleoli;Mitochondria		APE	Uncertain	GO:0005654;GO:0005739		ENSG00000000460	C1orf112	breast cancer	Medium	8	12	Staining
ENSG00000000460	C1orf112	Nucleus but not nucleoli;Mitochondria		APE	Uncertain	GO:0005654;GO:0005739		ENSG00000000460	C1orf112	breast cancer	Low	1	12	Staining
ENSG00000000460	C1orf112	Nucleus but not nucleoli;Mitochondria		APE	Uncertain	GO:0005654;GO:0005739		ENSG00000000460	C1orf112	breast cancer	Not detected	2	12	Staining
ENSG00000000938	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000938	FGR	breast cancer	High	0	12	Staining
ENSG00000000938	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000938	FGR	breast cancer	Medium	1	12	Staining
ENSG00000000938	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000938	FGR	breast cancer	Low	11	12	Staining
ENSG00000000938	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000938	FGR	breast cancer	Not detected	0	12	Staining
ENSG00000001036	FUCA2	Nucleus but not nucleoli;Mitochondria		APE	Uncertain	GO:0005654;GO:0005739		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000001084	GCLC	Nucleus;Nucleoli;Cytoplasm		APE	Supportive	GO:0005634;GO:0005730;GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000001167	NFYA	Nucleus but not nucleoli		APE	Supportive	GO:0005654		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004660	CAMKK1	Cytoplasm		APE	Supportive	GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004700	RECQL	Nucleus but not nucleoli		APE	Supportive	GO:0005654		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004766	CCDC132	Cytoplasm	Plasma membrane	APE	Uncertain	GO:0005737	GO:0005886	NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm;Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737;GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Medium	2	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm;Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737;GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Low	2	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm;Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737;GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Not detected	0	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm;Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737;GO:0015629	ENSG00000004777	ARHGAP33	cervical cancer	High	0	12	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm;Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737;GO:0015629	ENSG00000004777	ARHGAP33	cervical cancer	Medium	2	12	Staining

9