

### QUERY KINASE

Type = Ser/Thr  
KSD family = cAMP-II (127)  
PANTHER family = PKAC(22985:SF84)

### SDRs for heptapeptide position -3:

GEL+1 = E  
GEL+3 = F  
GEL+4 = S

### SDR METHOD

#### SQL query for -3 position

```
select hepta from psites, kinases
where kinase_type = 'Ser/Thr'
and psites.kinase_ac = kinases.kinase_ac
and GELp1 rlike '[DEN]'
and GELp3 rlike '[FWY]'
and GELp4 rlike '[ANST]'
```

Repeat for positions -2 to +3

### Heptapeptides

QFSTVKG  
EQFSTVK  
RSVSEAA  
RSGSSPN  
RHDSGLD  
RRMSDEF  
ARGSFDA

### KSD/PANTHER METHOD

#### SQL query for heptapeptide:

```
select hepta from psites, kinases
where kinase_type = 'Ser/Thr'
and psites.kinase_ac = kinases.kinase_ac
and ksd_ac = 127
(or panther_ac = '22985:SF84')
```

### Heptapeptides

QFSTVKG  
EQFSTVK  
RSVSEAA  
RSGSSPN  
RHDSGLD  
RRMSDEF  
ARGSFDA

### Scoring matrix

| Site | A     | C     | D     | E     | F     | G     | H     | I     | K     | L     | M     | N     | P     | Q     | R     | S     | T     | V     | W     | Y     |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -3   | -3.30 | -1.72 | -3.04 | -3.72 | 0.50  | -3.30 | 1.30  | -3.04 | 2.78  | -2.12 | 0.20  | -2.72 | -3.30 | -0.33 | 1.40  | -3.72 | 0.56  | -3.30 | -0.72 | 1.30  |
| -2   | 1.72  | -2.16 | -0.34 | -4.16 | -0.86 | -0.60 | -2.75 | -3.49 | -0.07 | -1.05 | -0.60 | -0.02 | -3.75 | -0.70 | 1.95  | -0.49 | 0.58  | -2.16 | -1.16 | 1.87  |
| -1   | -0.60 | -1.77 | -0.73 | -1.01 | 1.26  | 0.76  | -0.81 | -3.65 | 0.50  | -0.78 | 0.84  | 0.18  | -0.24 | -0.82 | 0.36  | 0.83  | 0.27  | -1.98 | -0.37 | 1.01  |
| 0    | -5.13 | -3.55 | -4.87 | -5.55 | -4.55 | -5.13 | -4.13 | -4.87 | -5.13 | -5.87 | -3.55 | -4.55 | -5.13 | -4.87 | -5.13 | 2.93  | 2.84  | -5.13 | -2.55 | -3.36 |
| +1   | 0.13  | -1.94 | -3.26 | 0.35  | 1.66  | -3.53 | -2.53 | 1.47  | 0.13  | -1.27 | 3.02  | -2.94 | -3.53 | -3.26 | -0.53 | -0.95 | 0.39  | 0.77  | -0.94 | -2.53 |
| +2   | -3.30 | -1.72 | -3.04 | -0.12 | 1.18  | -3.30 | -2.30 | 0.56  | -3.30 | 0.31  | 1.88  | -2.72 | -3.30 | -3.04 | -3.30 | -3.72 | 1.66  | 1.91  | -0.72 | 1.84  |
| +3   | -1.60 | -0.47 | 0.21  | 0.42  | -1.47 | 1.98  | -1.74 | 0.34  | 0.97  | -0.93 | -0.47 | -1.47 | 0.31  | -2.48 | -4.08 | 0.42  | -0.47 | -0.97 | -1.49 | -1.06 |