

## APPENDIX A

Parameters  $R_t$ ,  $K_D$  and  $K_n$  calculated in Chapter V were found using Mathematica<sup>®</sup> as follows:

`<<Statistics`NonlinearFit`` to initiate the package

Example:

```
data={{0.25,0.0143472},{0.5,0.0265847},{1,.0579828},{2,0.0853708},{4,.084221},{8,.1231986},{16,.1972319},{32,0.2465858}}
```

data points entered for  $L_0$   
and total bound ligand in  
ng/ml

```
NonlinearFit[data,(rt*x)/(kd+x)+kn*x,{x},{kn,kd,rt}]
```

to find unknown parameters  
 $R_t$ ,  $K_d$  and  $K_n$

```
NonlinearRegress[data,(rt*x)/(kd+x)+kn*x,{x},{kn,kd,rt}]
```

returns a regression  
analysis of the fit

Note: The equation may be rearranged for better fit values. The above equation gave realistic solution parameters for IGF-I binding by SV40-IGF-I. For IGFBP-3 binding by SV40-IGF-I cells, it was found that by dividing the above equation by  $L_0$  (i.e. "x") and using the above program, more appropriate values for a fit were obtained.