

## Supplementarymaterials5

### MONOLIX code for parameter estimation

DESCRIPTION: MONOLIX code

INPUT:

parameter = {r, beta, delta, c, epsilon}

EQUATION:

odeType = stiff

```
;;;;;;;;;;;;;  
; compute the initial values
```

t0 = 0

TCmax = 1.3e7

s = 60000

d = 0.001

p = 50

TC\_0 = delta\*c/beta/p

IC\_0 = (s+r\*TC\_0\*(1-TC\_0/TCmax)-d\*TC\_0)/(r\*TC\_0/TCmax+delta)

VL\_0 = p\*IC\_0/c

```
; proliferation rate of the cells
```

r\_prolif = r\*(1-(TC+IC)/TCmax)

```
; ODE system
```

ddt\_TC = s + r\_prolif\*TC - d\*TC - beta\*TC\*VL

ddt\_IC = beta\*TC\*VL - delta\*IC

ddt\_VL = (1-epsilon)\*p\*IC - c\*VL

OUTPUT:

output = VL