**Table S****1:**  Binary Equations for the Caspase3 Network in Figure 1

|  |  |  |
| --- | --- | --- |
|  | Molecules | Binary equations |
| Molecules in the network (listed  alphabetically) | AKT | AKT = EGFR | insulin |
| caspase8 | caspase8 = (~cFLIPL)& (ComplexII | ERK) |
| cFLIPL | cFLIPL = NFκB |
| ComplexI | ComplexI = TNF |
| ComplexII | ComplexII = TNF | ComplexI |
| EGFR | EGFR = EGF |
| ERK | ERK = MEK |
| IKK | IKK = ComplexI |
| IRS1 | IRS1 = Insulin |
| JNK1 | JNK1 = MKK7 |
| MEK | MEK = EGFR | IRS1 |
| MEKK1ASK1 | MEKK1ASK1 = ComplexI |
| MK2 | MK2 = p38 |
| MKK3 | MKK3 = MEKK1ASK1 |
| MKK7 | MKK7 = MEKK1ASK1 |
| NFκB | NFκB = IKK |
| p38 | p38 = MKK3 |
| Network output molecule | caspase3 | caspase3 = (~AKT) & (caspase8 | JNK1 | MK2) |

Each equation specifies the input signal(s) of a molecule in the network. The binary operations ~, | and & represent NOT, OR and AND, respectively [2].