#	Reaction	Value	Unit	Description	Source of parameter value	
	LR module	value	Cint	Description	Source of parameter varue	
TLR						
1	=> TLR3	1.0E-04	μM ⁻¹ min ⁻¹	Protein Synth.	Fit	
2	TLR3 =>	5.8E-03	min ⁻¹	Protein Deg.	Fit	
3	PIC + TLR3 => TLR3PIC	6.0E-01	μM ⁻¹ min ⁻¹	Association	Fit	
4	TLR3PIC => PIC + TLR3	1.1E-01	min ⁻¹	Dissociation	Fit	
5	TRIF => TRIF*; TLR3PIC	0.39	μM ⁻¹ min ⁻¹	Triff activation by receptor complex in the early endosome	Fit	
TLR		0.57	pivi iiiii	endosome	111	
6	LPS => LPSpm	1.7E-01	min ⁻¹	LPS bind to the plamsa membrane	Fit	
7	I DCnm -> I DCon	1.8E-01	min ⁻¹	LPS translocate from plamsa membrane to early	Fit	
8	LPSpm => LPSen LPSen => LPS	2.6E-01	min ⁻¹	endosome Export LPS	Fit	
9	LPSen =>	1.3E+01	min ⁻¹	Depletion of LPS from the early endosome	Fit	
				Association of LPS and TLR4 in the plamsa	Fixed, Table 1. Shin et al. 2007,	
10	LPSpm + TLR4pm => TLP4LPSpm	0.19	μM ⁻¹ min ⁻¹	membrane Disassociation of TLR4LPS in the plamsa	0.12~ 0.36 Fixed, Table 1. Shin et al. 2007,	
11	TLP4LPSpm => LPSpm + TLR4pm	2.7	min ⁻¹	membrane	0.6~3.6	
	TEL VELOPIN EL OPIN TEL OPIN	2.7		Association of LPS and TLR4 in the early	0.0 5.0	
12	LPSen + TLR4en => TLR4LPSen	0.19	μM ⁻¹ min ⁻¹	endosome	#5	
13	TLR4LPSen => LPSen + TLR4en	2.7	min ⁻¹	Disassociation of TLR4LPS in the early endosome	#6	
14	=> TLR4pm	2.6E-02	μM min ⁻¹	TLR4 generation at the plamsa membrane	Fit Fit	
15	TLR4pm =>	9.0E-01	min ⁻¹	TLR4 depletion from the plamsa membrane	Fit	
16	TLR4en =>	2.9E+00	min ⁻¹	TLR4 depletion from the early endosome	Fit	
17	TI DAnn -> TI DA	1.25.01	:1	TLR4 translocate from plamsa membrane to	E:4	
17	TLR4pm => TLR4en	1.3E-01	min ⁻¹	early endosome TLR4 translocate from early endosome to	Fit	
18	TLR4en => TLR4pm	3.6E+00	min ⁻¹	plamsa membrane	Fit	
	·			Receptor complex translocate from plamsa		
19	TLR4LPSpm => TLR4LPSen	2.4E-01	min ⁻¹	membrane to early endosome Receptor complex translocate from early	Fit	
20	TLR4LPSen => TLR4LPSpm	0.04	min ⁻¹	endosome to plamsa membrane	Fit	
				Receptor complex degradation in the plamsa		
21	TLR4LPSpm =>	14.41	min ⁻¹	membrane	Fit	
22	TLR4LPSen =>	0.4	min ⁻¹	Receptor complex degradation in the early endosome	Fit	
23	TERGET SCIT	3	μM ⁻¹ min ⁻¹	Chidosome	Fit	
	MYD88 => MYD88*; TLR4LPSpm			MyD88 activation (by receptor complex) in the		
24	, TERVETSPIII	3 5.8E-02		plasma membrane	Derived from MyDDosome model	
25 26	MYD88* => MYD88	0.3	EC50: μM min ⁻¹	MyD88 Deactivation	Fit Fit	
20	MIBOO - MIBOO	0.5		Triff activation by receptor complex in the early	111	
27	TRIF => TRIF*; TLR4LPSen	0.39	μM ⁻¹ min ⁻¹	endosome	Fit	
28 TLR	TRIF* => TRIF	1.2E-02	min ⁻¹	Triff Deactivation	Fit	
1LK 29	=> TLR9	1.0E-04	μM ⁻¹ min ⁻¹	Protein Synth.	Fit	
30	TLR9 =>	5.8E-03	min ⁻¹	Protein Deg.	Fit	
31	CpG + TLR9 => TLR9CpG	6.0E-01	μM ⁻¹ min ⁻¹	Association	Fit	
32	$TLR9CpG \Rightarrow CpG + TLR9$	2.7E+00	min ⁻¹	Dissociation	Fit	
33		33	μM ⁻¹ min ⁻¹		Fit	
34	MYD88 => MYD88*; TLR4LPSpm	3	Hill coefficient	MyD88 activation (by receptor complex)	Derived from MyDDosome model	
35		5.8E-02	EC50: µM		Fit	
T	NFR module					
		2.05.07	:1	Protein Cont.	(W	
36 37	=> tnfrm tnfrm =>	2.0E-07 5.8E-03	min ⁻¹	Protein Synth. Protein Deg.	(Werner et al. 2008) (Werner et al. 2008)	
	3 tnfrm => TNFR	1.0E-05	min μM ⁻¹ min ⁻¹	Association	(Werner et al. 2008)	
39	TNFR => 3 tnfrm	1.0E-03	min ⁻¹	Dissociation	(Werner et al. 2008)	
	TNFR => (internalization)	1.7E-03	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
	TNFR + TTR => C1_off	100.00	μM ⁻¹ min ⁻¹	Association	(Werner et al. 2008)	
	C1_off => TNFR + TTR	0.75	min ⁻¹	Dissociation	(Werner et al. 2008)	
_	C1_off => C1 C1 => C1 off	3.0E+01 2.0E+00	min ⁻¹	Activation Deactivation	(Werner et al. 2008) (Werner et al. 2008)	
_	$C1 \Rightarrow C1$ _off (A20 mediated)	1000.00	min ' μM' min'	Deactivation	(Werner et al. 2008)	
	C1 => TNFR + TTR	7.5E-01	min ⁻¹	Dissociation	(Werner et al. 2008)	
47	C1_off => (internalization)	1.7E-03	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
48	C1 => (internalization)	1.7E-03	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
	tnf=>	1.5E-02	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
50 51	tnf + 3tnfrm => TNFRtnf tnf + TNFR => TNRtnf	1.1E+03 1.1E+03	min ⁻¹	Association Association	(Werner et al. 2008) (Werner et al. 2008)	
52	TNFRtnf => TNFR + tnf	2.1E-02	min min-1	Dissociation Dissociation	(Werner et al. 2008)	
	TNFRtnf => (internalization)	1.7E-03	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
54	TNFRtnf + TTR => C1tnf_off	1.0E+02	μM ⁻¹ min ⁻¹	Association	(Werner et al. 2008)	
	C1tnf_off => TNFRtnf+TTR	7.5E-01	min ⁻¹	Dissociation	(Werner et al. 2008)	
	C1tnf_off=> C1tnf C1tnf=> C1tnf off	3.0E+01 2.0E+00	min ⁻¹	Activation Deactivation	(Werner et al. 2008) (Werner et al. 2008)	
3/	Cruit -> Cruit_011	∠.0E⊤00	иши	Deactivation	(Welliel et al. 2008)	

So Clmf => TNFRtnf + TTR 7.5E-01 min ⁻¹ Dissociation (Werner et al. 2008)	50	C14C > C14CC(A20	1.05+02	3 f-1 :1	Design of the	(W 4 1 2009)		
Bar Control Process		_ (,	1.0E+03	μM ⁻¹ min ⁻¹	Deactivation	(Werner et al. 2008)		
George Color of 17-00 15-00 max Protection Wilson et al. 2001						,		
A								
Description Control 11 11 12 13 13 14 15 15 15 15 15 15 15								
						,		
KK - NF kB module				-				
The Company of the								
BATT START MANUSE* 494:100	65	C1 + tnf => C1tnf	1.1E+03	μM· min·	Association	(Werner et al. 2008)		
Fig. 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,								
Mark Section Mark								7.5E+00
	-				TRAF6 activation by TRIF*	Fit	80	3.4E+00
New College			0.22	min ⁻¹	TRAF6 Deactivation	Fit		
10 KKK = 18KK TRAF 3.4E-01 µM mar 1 18 18 18 19 19 19 19	70	IKKK_off => IKKK (C1tnf mediated)	I					HZIZ 4 . 4 . 1
20	_,	HANN - HANNA TRAFCA	2 45 01	3.61	HAMA C. C. 1 TED A ECW	D'.		
25							01	
The No. The							81	0.06/91
The New North Content of the						,		I DC 1
Total Comment Commen							0.5	
The Note							82	633.55
78 IKK - IKK								
70 See Effect (constitutive) 7 60-65 min² RNA Synth Werner et al. 2008				min"	Deactivation	(Werner et al. 2008)		
80 St. Bible (constitutive) 1.0E-0.6 min St. SNA Synth. (Werner et al. 2008)					nu a d			
Simple Simple 1,00 60 min	\rightarrow							
Section					· · · · · · · · · · · · · · · · · · ·	,		
Section Sect		=> IkBet (constitutive)			RNA Synth.			
Society Soci	82		8			(Werner et al. 2008)		
State State Continued by NFkBn O								
Section Sect		. HD (C. I			DV4 G d			
Hell St. Coefficient C		=> IkBat (induced by NFkBn)	*		RNA Synth.			
86 3 Coefficient 37 Delay min RNA Synth. Werner et al. 2008)	85		0.02			(Werner et al. 2008)		
ST SikBt (induced by NFkBn) 37								
Section Sec			3					
Fill		=> IkBbt (induced by NFkBn)			RNA Synth.			
3	88		0.3			(Werner et al. 2008)		
	00						I	
No.		NB (4 1 1	3		n., a .			
20 IRBH => 8.0E-0.3 min RNA Deg (Werner et al. 2008)						,		
93 BBB					č	,		
94 SiRBh 0.25 μM min ³ Protein Synth (Werner et al. 2008) 95 > IRBb 0.25 μM min ³ Protein Synth (Werner et al. 2008) 96 > IRBe 0.25 μM min ³ Protein Synth (Werner et al. 2008) 97 IRBa > IRBan 0.09 min ³ Import (Werner et al. 2008) 98 IRBb > IRBbn 0.009 min ³ Import (Werner et al. 2008) 98 IRBb > IRBbn 0.0045 min ³ Import (Werner et al. 2008) 100 NFRB > NFRBn 5.4 min ³ Import (Werner et al. 2008) 101 IRBan > IRBb 0.012 min ³ Export (Werner et al. 2008) 102 IRBbn > IRBb 0.012 min ³ Export (Werner et al. 2008) 103 IRBen > NFRB 0.0042 min ³ Export (Werner et al. 2008) 104 NFRB > NFRB 0.0048 min ³ Export (Werner et al. 2008) 105 IRBan NFRB > IRBaNFRB 0.0048 min ³ Export (Werner et al. 2008) 106 IRBNFRB > IRBNFRB 0.0048 min ³ Export (Werner et al. 2008) 107 IRBNFRB > IRBNFRB 0.0076 min ³ Import (Werner et al. 2008) 108 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 101 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 108 IRBNFRB > IRBNFRB 0.008 min ³ Import (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Import (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 108 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 109 IRBNFRB > IRBNFRB 0.008 min ³ Export (Werner et al. 2008) 110 IRBNFRB > IRBNFRB 0.008 min ³ Protein Deg (Werner et al. 2008) 111					-			
95 SikBb 0.25						,		
Fig. Sign December Decem				•		,		
	95			μM min ⁻¹	Protein Synth.			
197 IkBa => IkBan 0.09 min ⁻¹ Import (Werner et al. 2008)				μM min ⁻¹	Protein Synth.	(Werner et al. 2008)		
Section Sec	$\overline{}$							
100 NFR => NFRBn	_							
100 NFkB => NFkBn 5.4 min ⁻¹ Import (Werner et al. 2008) 101 IkBan => IkBa 0.012 min ⁻¹ Export (Werner et al. 2008) 102 IkBbn >= IkBb 0.012 min ⁻¹ Export (Werner et al. 2008) 103 IkBen => IkBe 0.012 min ⁻¹ Export (Werner et al. 2008) 104 NFkBm >= NFkB 0.0048 min ⁻¹ Export (Werner et al. 2008) 105 IkBaNFkB >= IkBaNFkBn 0.276 min ⁻¹ Import (Werner et al. 2008) 106 IkBNFkB >= IkBNFkBn 0.0276 min ⁻¹ Import (Werner et al. 2008) 107 IkBeNFkB >= IkBNFkBn 0.138 min ⁻¹ Import (Werner et al. 2008) 108 IkBNFkB >= IkBNFkBn 0.828 min ⁻¹ Export (Werner et al. 2008) 109 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 101 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 101 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 101 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 101 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 101 IkBNFkBn >= IkBNFkB 0.414 min ⁻¹ Export (Werner et al. 2008) 103 IkBn >= 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 104 IkBn >= 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 105 IkBn >= 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 106 IkBNFkB >= NFkB 0.018 min ⁻¹ Protein Deg. (Werner et al. 2008) 107 IkBNFkB >= NFkB 0.018 min ⁻¹ Protein Deg. (Werner et al. 2008) 108 IkBNFkB >= NFkB 0.018 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 IkBn >= 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 IkBNFkB >= NFkB 0.018 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 IkBNFkB >= NFkB 0.010 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 IkBNFkB >= NFkB 0.010 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBNFkB >= NFkBB 0.010 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBNFkB								
102 IkBan => IkBa								
102 RkBn					Import	(Werner et al. 2008)		
103 kBen => kBe					Export	(Werner et al. 2008)		
104 NFRBn => NFRB								
105 IkBaNFkB => IkBaNFkBn 0.276 min ⁻¹ Import (Werner et al. 2008) 106 IkBNFkB => IkBNFkBn 0.0276 min ⁻¹ Import (Werner et al. 2008) 107 IkBNFkB => IkBNFkBn 0.138 min ⁻¹ Import (Werner et al. 2008) 108 IkBNFkB => IkBNFkBn 0.828 min ⁻¹ Export (Werner et al. 2008) 109 IkBNFkBn => IkBNFkBn 0.414 min ⁻¹ Export (Werner et al. 2008) 109 IkBNFkBn => IkBNFkBn 0.414 min ⁻¹ Export (Werner et al. 2008) 110 IkBNFkBn => IkBNFkBn 0.414 min ⁻¹ Export (Werner et al. 2008) 111 IkBa => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 112 IkBn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 113 IkB => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 114 IkBn => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 IkBn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 IkBn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 110 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 111 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 112 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 113 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 114 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 IkBNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 IkBNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBn => IkBNFkBn 3								
106				min ⁻¹	Export	(Werner et al. 2008)		
107	105	IkBaNFkB => IkBaNFkBn	0.276	min ⁻¹	Import	(Werner et al. 2008)		
108 IkBaNFkBn => IkBaNFkB	106	IkBbNFkB => IkBbNFkBn	0.0276	min ⁻¹	Import	(Werner et al. 2008)		
109								
110					Export	(Werner et al. 2008)		
It IkBa >	109	IkBbNFkBn => IkBbNFkB	0.414	min ⁻¹	Export	(Werner et al. 2008)		
It IkBa >			0.414	min ⁻¹		(Werner et al. 2008)		
112 lkBb => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 113 lkBe => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 114 lkBan => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 lkBbn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 lkBen => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 lkBaNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 lkBbNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 lkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 lkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 lkBbNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 lkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 lkBa + NFkB => lkBaNFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 124 lkBb + NFkB => lkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 lkBa + NFkB => lkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 lkBa + NFkBn => lkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 lkBb + NFkBn => lkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 lkBb + NFkBn => lkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 lkBb + NFkBn => lkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 lkBa + NFkBn => lkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)								
113 IkBe => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 114 IkBan => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 IkBbn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 IkBen => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 IkBaNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 IkBbNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 IkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 IkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBeNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 124 IkBbNFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 IkBe + NFkB => IkBeNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 IkBe + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 IkBb + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBe + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBe + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBe + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBe + NFkBn >> IkBeNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)			0.12	min ⁻¹	Protein Deg.	(Werner et al. 2008)		
114 lkBan => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 lkBbn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 lkBen => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 lkBaNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 lkBbNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 lkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 lkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 lkBbNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 lkBeNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 lkBeNFkB => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 124 lkBbNFkB => lkBbNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 lkBe + NFkB => lkBbNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 lkBe + NFkB >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 lkBb + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 lkBe + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 lkBb + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 lkBb + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 lkBb + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 lkBb + NFkBn >> lkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)	112	IkBb =>	0.18	min ⁻¹	Protein Deg.			
114 IkBan => 0.12 min ⁻¹ Protein Deg. (Werner et al. 2008) 115 IkBbn => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 116 IkBen => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 IkBaNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 IkBbNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 IkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 IkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn >> NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBa + NFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 124 IkBb + NFkB => IkBbNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 IkBa + NFkB => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 IkBa + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 IkBb + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBa + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBa + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBa + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)	113	IkBe =>	0.18	min ⁻¹	Protein Deg.			
115 IkBbn ⇒ 0.18 min¹ Protein Deg. (Werner et al. 2008) 116 IkBen ⇒ 0.18 min¹ Protein Deg. (Werner et al. 2008) 117 IkBaNFkB ⇒ NFkB 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) 118 IkBbNFkB ⇒ NFkB 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) 119 IkBeNFkB ⇒ NFkB 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) 120 IkBaNFkBn ⇒ NFkBn 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) 121 IkBeNFkBn ⇒ NFkBn 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn ⇒ NFkBn 6.0E-05 min¹ Protein Deg. (Werner et al. 2008) IkBeNFkB Association and Dissociation Reactions IkBeNFkB Association and Dissociation Reactions IkBeNFkB ⇒ IkBaNFkB 30 μM¹ min¹ Association (Werner et al. 2008) 123 IkBe + NFkB ⇒ IkBeNFkB 30 μM¹ min¹ Association (Werner et al. 2008) 126 IkBe + NFkBn ⇒ IkBeN				min ⁻¹		(Werner et al. 2008)		
116 IkBen => 0.18 min ⁻¹ Protein Deg. (Werner et al. 2008) 117 IkBaNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 118 IkBbNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 119 IkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 IkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBa + NFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 124 IkBb + NFkB => IkBeNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 IkBe + NFkB => IkBeNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 IkBb + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBa + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)					Protein Deg.			
117 IkBaNFkB => NFkB					č			
118								
119 IkBeNFkB => NFkB 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 120 IkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBa + NFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association Werner et al. 2008) 124 IkBb + NFkB => IkBbNFkB 30 μM ⁻¹ min ⁻¹ Association Werner et al. 2008) 125 IkBa + NFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association Werner et al. 2008) 126 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association Werner et al. 2008) 127 IkBb + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBa + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBb + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBb + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBb + NFkBn => IkBNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)								
120 IkBaNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 121 IkBbNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBeNFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 124 IkBeNFkB => IkBbNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 IkBe + NFkB => IkBbNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 IkBeNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBaNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBeNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBeNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBeNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBeNFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)								
121 IkBbNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 122 IkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) 123 IkBa + NFkB => IkBaNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 124 IkBb + NFkB => IkBeNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 125 IkBe + NFkB => IkBeNFkB 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 126 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 127 IkBb + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 128 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 129 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008) 120 IkBa + NFkBn => IkBaNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)								
122 IkBeNFkBn => NFkBn 6.0E-05 min ⁻¹ Protein Deg. (Werner et al. 2008) IkBeNFkB Association and Dissociation Reactions						,		
IkB:NFkB Association and Dissociation Reactions								
123 IkBa + NFkB => IkBaNFkB 30						2000)		
124 lkBb + NFkB => lkBbNFkB 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008) 125 lkBe + NFkB => lkBeNFkB 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008) 126 lkBa + NFkBn => lkBaNFkBn 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008) 127 lkBb + NFkBn => lkBbNFkBn 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008)				uM ⁻¹ min ⁻¹	Association	(Werner et al. 2008)		
125 IkBe + NFkB ⇒ IkBeNFkB 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008) 126 IkBa + NFkBn ⇒ IkBaNFkBn 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008) 127 IkBb + NFkBn ⇒ IkBbNFkBn 30 μM⁻¹ min⁻¹ Association (Werner et al. 2008)								
126 lkBa + NFkBn => IkBaNFkBn 30 μM⁻ min⁻¹ Association (Werner et al. 2008) 127 lkBb + NFkBn => IkBbNFkBn 30 μM⁻ min⁻¹ Association (Werner et al. 2008)								
127 IkBb + NFkBn => IkBbNFkBn 30 μM ⁻¹ min ⁻¹ Association (Werner et al. 2008)								
						,		
120 INDC + IN EDIT => INDCHERDII DU JUN IIIII [ASSOCIATION] [Wellief et al. 2008)								
		INDUT NEKDII -> IKBUNEKBI	130	μινι min	Association	(weitief et al. 2008)		

					$\overline{}$
129 IkBaNFkB => IkBa + NFkB	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
130 IkBbNFkB => IkBb + NFkB	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
131 IkBeNFkB => IkBe + NFkB	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
132 IkBaNFkBn => IkBa + NFkBn	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
133 IkBbNFkBn => IkBb + NFkBn	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
134 IkBeNFkBn => IkBe + NFkBn	6.0E-05	min ⁻¹	Dissociation	(Werner et al. 2008)	
IKK-mediated IkB Degradation Reactions	5				
135 IkBa =>	0.36	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
136 IkBb =>	0.12	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
137 IkBe =>	0.18	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
138 IkBaNFkB => NFkB	0.36	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
139 IkBbNFkB => NFkB	0.12	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
140 IkBeNFkB => NFkB	0.18	min ⁻¹	Protein Deg.	(Werner et al. 2008)	
A20 mRNA and Protein Synthesis and De	gradation Reactio	ns			
141 => A20t (constitutive)	2.00E-06	min ⁻¹	RNA Synth.	(Werner et al. 2008)	
142	0.40	μM ⁻² min ⁻¹		(Werner et al. 2008)	
		Hill			
143	3.00	Coefficient		(Werner et al. 2008)	
		Delay: min		(Wannan at al. 2009)	
144	0	Delay. min		(Werner et al. 2008)	
	0				
145 => A20t (induced by NFkBn)	120	Shutdown: min		(Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t =>	0.04	Shutdown: min	RNA Synth. RNA Deg.	(Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147	0.04 0.25	Shutdown: min min ⁻¹	RNA Deg.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20	0.04 0.25 30	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147	0.04 0.25	Shutdown: min min ⁻¹	RNA Deg.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 =>	0.04 0.25 30 0.0029	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t =>	0.04 0.25 30 0.0029	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive)	0.04 0.25 30 0.0029	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg. RNA Synth.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t =>	0.04 0.25 30 0.0029	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth.	(Werner et al. 2008) Fit Fixed	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive)	0.04 0.25 30 0.0029	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth.	(Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008) (Werner et al. 2008)	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive)	0.04 0.25 30 0.0029 module 1.00E-05 1	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth.	(Werner et al. 2008) Fit Fixed Fixed Fixed	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive) => TNFnacent (induced by NFkBn)	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65	Shutdown: min min ⁻¹ Delay: min min ⁻¹	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fixed Fit	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive) => TNFnacent (induced by NFkBn)	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65	Shutdown: min min ⁻¹ min ⁻¹ Delay: min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fixed Fit	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive) => TNFnacent (induced by NFkBn)	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65	Shutdown: min min min i Delay: min min i /- (30min): min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fixed Fit	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive) => TNFnacent (induced by NFkBn)	0.04 0.25 30 0.0029 module 1.002-05 1 2 0.65 0.4	Shutdown: min min ⁻¹ Delay: min min ⁻¹	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fit Fit Fit	
145	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65 0.4	Shutdown: min min min i Delay: min min i /- (30min): min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fit Fit Measure Measure	
145 => A20t (induced by NFkBn) 146 A20t => 147 148 => A20 149 A20 => TNF production => TNFnacent (Constutive) => TNFnacent (induced by NFkBn) TNFnacent => TNFmRNA TNFmRNA => => proTNF	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65 0.4 0.02 0.07 0.05	Shutdown: min min min i Delay: min min /- (30min): min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process	(Werner et al. 2008) Fit Fixed Fixed Fit Fit Measure Measure Measure Fit	
145	0.04 0.25 30 0.0029 module 1.00E-05 1 2 0.65 0.4	Shutdown: min min min i Delay: min min /- (30min): min	RNA Deg. Protein Deg. Protein Deg. RNA Synth. RNA Synth. mRNA process mRNA Deg. Protein Synth. Protein Deg.	(Werner et al. 2008) Fit Fixed Fixed Fit Fit Measure Measure	