

Regulation of Toll-like receptor signaling by NDP52-mediated selective autophagy is normally inactivated by A20

Megumi Inomata,¹ Shumpei Niida,² Ken-ichiro Shibata,³ and Takeshi Into^{1*}

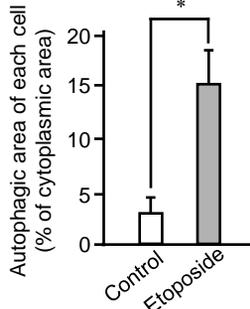
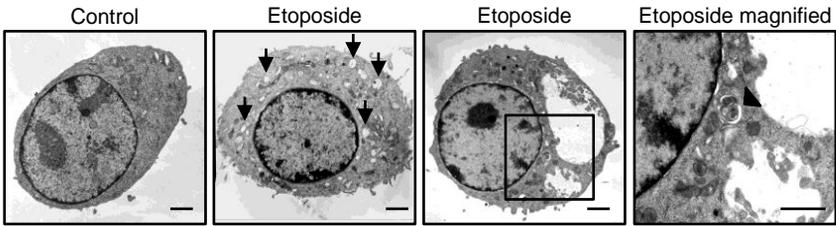
¹ Department of Oral Microbiology, Division of Oral Infections and Health Sciences, Asahi University School of Dentistry, Hozumi 1851, Mizuho, Gifu 501-0296, Japan; ² Laboratory of Genomics and Proteomics, National Institute for Longevity Sciences, National Center for Geriatrics and Gerontology, Obu, Aichi 474-8522, Japan; ³ Laboratory of Oral Molecular Microbiology, Department of Oral Pathobiological Science, Hokkaido University Graduate School of Dental Medicine, Sapporo 060-8586, Japan.

*Corresponding author. Mailing address: Department of Oral Microbiology, Division of Oral Infections and Health Sciences, Asahi University School of Dentistry, Hozumi 1851, Mizuho, Gifu 501-0296, Japan. Phone & Fax: 81 58 3291422. E-mail: into@dent.asahi-u.ac.jp

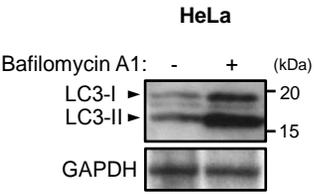
-Journal name: Cell. Mol. Life Sci.

Supplementary Fig. S1

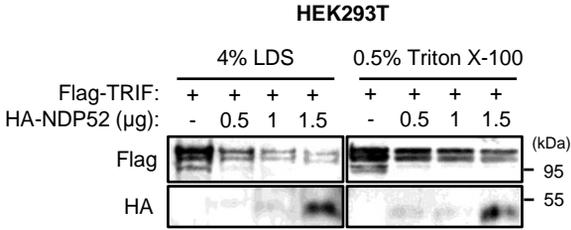
Human bone marrow mononuclear cells



Supplementary Fig. S2



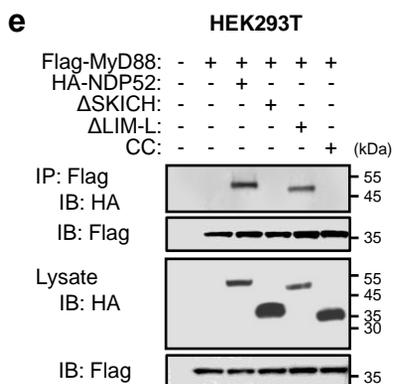
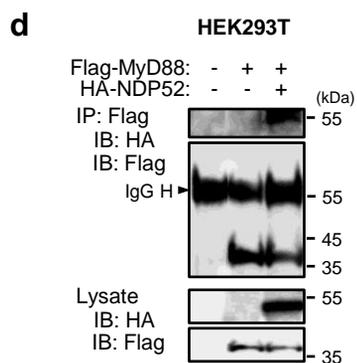
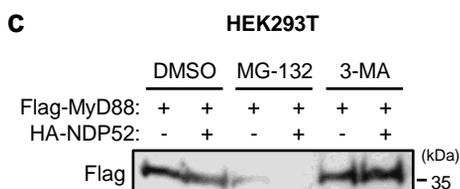
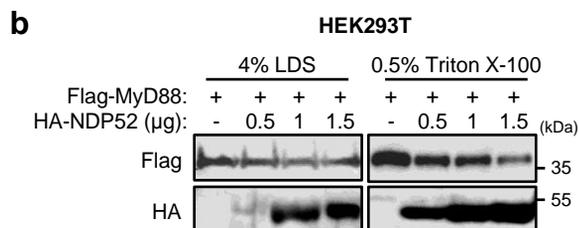
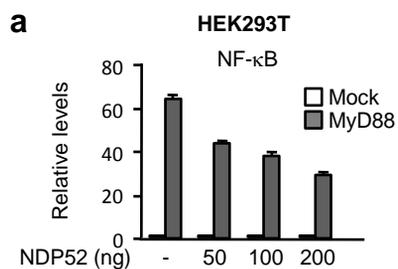
Supplementary Fig. S3



Supplementary Fig. S4

	SKICH	
Homo sapiens	MEETIKDPPTSAVLLDHCHEFSQVIFNSVEKFIYPGGDVTCHYFTQHFIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DLNNSAKQQEVQFKAYLLPK	100
Pan troglodytes	MEETIKDPPTSAVLLDHCHEFSQVIFNSVEKFIYPGGDVTCHYFTQHFIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DLNNSAKQQEVQFKAYLLPK	100
Bos taurus	MEETVDDPPTSAVLLDHCHEFSQVIFNSVEKFIYPGGDITCYTTLTQHFIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DLNSSEAKQQEVQFKAYLLPK	100
Canis familiaris	MDETVDDPPTSAVLLDHCHEFSQVIFNSVEKFIYPGGDVTCTYTLTQHFIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DLNSSEAKQQEVQFKAYLLPK	100
Mus musculus	MDQCP1--PT---LLEHGNSQVLFNNVEKFIAPRGDIMCYTTLTEKFIIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DQNKDSATQQEIQFKAYLLPK	95
Gallus gallus	MDETSDEPPTSAVILDSHFVSHVIFNDVEKFIYPGGDVTCTYTLTQHFIPRRKDWIGIFRVGWKTTREYYTFMWTLPV-DVHGDSAVQQEIQFKAYLLPK	100
Danio rerio	MSDRTEEE--SIVIMETSSFSQVFNVDNPPSPFNTAVTCRFT-TGDLQPNPRDWIGIYKVGWNSAQQYNYVWVEAPHLDQ---AKPEQVIFKESYLLPK	94
<hr/>		
Homo sapiens	DD-EYYQFCYVDEDDGVVRGASIPQFRPEN-----EEDILVVTTOGEVEEIEQHNKELCKENQELKDSGISLQKQNSDMQAEALQKKQE---ELETLSQSI	190
Pan troglodytes	DD-EYYQFCYVDEDDGVVRGASIPQFRPEN-----EEDILVVTTOGEVEEIEQHNKELCKENQELKDSGVSLQKQNSDMQAEALQKKQE---ELETLSQSI	190
Bos taurus	DD-EYYQFCYVDDGVVRGASIPQFRPEN-----EEDILVVTTOGEVEEIEQHNKELCKENRELKDSVSLQKQNSDMQATLQKKQE---ELETLSKI	190
Canis familiaris	DD-EYYQFCYVDDGVVRGASIPQFRPEN-----EEDILVVTTOGEVEEIEQHNKELCKENQELKDSVSLQKQNSDMQAEALHKKKE---DLETLSKT	190
Mus musculus	DV-ERYQFCYVDEDDGLVGRGTSIPFQFCDDPD-----EDIMVVINKEK-VEEMEQLSEELYQQNELKD-----K-YADLHEQLQRKQVA---LEATQRV	178
Gallus gallus	DD-EYYQFCYIDDDGTIRGASVPPQFRAET-----EDDILVVTTOGEVEEIEQHNKELCKENKLLQANGESLQKQNTDLQEDLKKTQELQNVLESLSRS	193
Danio rerio	DDGEFYQFCYVDSGHVKGASTPEFCQNETSLDSCLEKDLLVITTEQEQTEIMEKEKEDFLKEIESLKEKNTNLRNELDERLHEMSRLRST---LEDLKS	192
<hr/>		
	Coiled-coil	
Homo sapiens	NKKLELKV-----KEQKDYWETELLQLKEQNKMSSENEKMGIR-----VDQLQAQLSTQEKEMEKLVQGDQDKTEQLEQLKENDHFLSLTE	271
Pan troglodytes	NKKLELKV-----KEQKDYWETELLQLKEQNKMSSENEKMGIR-----VDQLQAQLSTQEKEMEKLVQADQDKTEQLEQLKENDHFLSLTE	271
Bos taurus	NKKLEQTM-----KEQKDCWEIELLQLKEQNKMSSENEKMGVR-----VDQLQAQLSNQGREMEKLVQGVQDKTEQLEHLKKEENGFLSLTE	271
Canis familiaris	NKKLEQQV-----KAQKDCWEIELLQLKEQNKMATENEKLGVR-----VEQLQAQLSTQEKELKLVQGSQDKTEQLEHLKKEKESQLLLTLQ	271
Mus musculus	NKTLHKKVE-----E-KASWEKEKASWEBEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKAS	268
Gallus gallus	TEKLELELSSLKENKHLKELNECREAELHQFKEQIQNVTSBEKRLKTLKALDHDVQLQSLLSYEKEIEDLVHSNRDKTKQCESLKEENQLCMITIQ	294
Danio rerio	DKPETPLPD-----EQS-YNAIEESLTPLEKYEKAV-QKIFVLKQER-----TELQQEIELQDTEILRLSTLLKEMEKNYSKVQDQAKLLQLLDVQS	277
<hr/>		
	Leucine zipper	
Homo sapiens	QRKDQKLEQTVQEMKQNETTAMKKQQLMDENFDLSKRLSENEIICNALQREKERLEGENDLLKRENSRLLSYMGLDFNSLPYQVPTSDGEGARQNPQ--	373
Pan troglodytes	QRKDQKLEQTVQEMKQNETTAMKKQQLMDENFDLSKRLSENKIICNALQREKERLEGENDLLKRENSRLLSYMGLDFNSLPYQVPTSDGEGARQNPQ--	373
Bos taurus	QREHQKLEQTVQEMKQKETTAAKKQQLTDQNMDSLKRLSENMI IHDVLOREKERKEMKENDYLLKRENSRLLSYMGLDCDSLSYQVPTSNQGGTRQDQ--	373
Canis familiaris	QREHQKLEQTVQEMKQKETTAMKKQQLTDENSLKSLTLENKIMGSTLQREKERLEKENDLLKRENSRLLSYMGLDFDLSLPYQVPTSDQAGAQNPQ--	373
Mus musculus	WEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKASWEEKAS	331
Gallus gallus	EKEQKLEKLNCLLEHLKGAENLTLRLQNEQRQNSDLMEKELEEQKRLFPQLQAKQKESDEENQKLRKEKDSFLRLR----SHPRDVSSEVSAQAQFVPAPE	390
Danio rerio	SRKDNKELQMEIQELRDKCAENKALQTSM----LEQRAQENDK	317
<hr/>		
	LIM-like	
Homo sapiens	-LAYGNPYS--GI-QESSSPSPLSIKKCPICK---AD---DICDHTE-QQQMOPCLFNCPICDKIFPATEKQIFEDHVFCHSL	446
Pan troglodytes	-LAYGNPYS--GI-QESSSPSPLSIKKCPICK---AD---DICDHTE-QQQMOPCLNCPICDKIFPATEKQIFEDHVFCHSL	446
Bos taurus	-LVFGNPYS--GI-QESSAPSLLSIKKCPICK---SDFAADVFDHNLAEQHLQTLNCPICDKTFFPAKEKQIFEDHVFCHTL	450
Canis familiaris	-LVYGNPYS--GI-QESSAPSLRTRKRCPTCK---SDLADDIFGFTLE-QQHMEALCLNCPICDKTFFPAKEKQIFEDHVFCHTL	449
Gallus gallus	DFVFGNPYHAAGANQEARATGDISIRKCPICNDIFPD---DIETRDYE--AHVQSHLLECPVCNEAFKSNQVFDHMLCHSL	469

Supplementary Fig. S5



Supplementary Fig. S6

NDP52 : 395 KK**C**P**I**C**K**AD**D**I**C**DHTLEQQQM**Q**PL**C**F**N**C**P**I**C**DKIFPATEKQIFEDHVF**C**H**S**L 446
COCOA : 654 KE**C**P**I**C**K**ERFPAESDKDALEDHMDGHFFFSTQDPFT**F**E 691
TAX1BP1: 686 KK**C**PL**C**ELMF[**P**PN**I**]DQSKFEEHVESHW**K**V**C**PM**C**SEQF[**P**PD**I**]DQQVFERHVQTHFDQNVLNFD 747

NDP52 : 395 KK**C**P**I**C-KAD**D**I**C**DHTLEQQQ-M**Q**PL**C**F**N**C**P**I**C**DKIFPATEKQIFEDHVF**C**H**S**L 446
CRP : 7 KK**C**GV**C**QKT**V**YFAEEV**Q**CEGNSFH**K**S**C**FL**C**M**V**C**K**KNLDSTTVAVHGEEI**Y**C**K**S-C**Y**G**K** 63
CRIP1 : 2 PK**C**PK**C**NKEVYFAERV**T**SLGKD**W**HR**P**CL**K**CE**K**CGK**T**LTSGGHA**E**HEG**K**PY**C**N**H**PC**Y**AA 59
CRIP2 : 3 SK**C**PK**C**DK**T**YFAEKVSSLGKD**W**HK**F**CL**K**CE**R**C**S**KT**L**T**P**GGHA**E**HDG**K**PF**C**H**K**PC**Y**AT 60