Science Advances

AAAS

Supplementary Materials for

Porphyromonas gingivalis in Alzheimer's disease brains: Evidence for disease causation and treatment with small-molecule inhibitors

Stephen S. Dominy*, Casey Lynch, Florian Ermini, Malgorzata Benedyk, Agata Marczyk, Andrei Konradi, Mai Nguyen, Ursula Haditsch, Debasish Raha, Christina Griffin, Leslie J. Holsinger, Shirin Arastu-Kapur, Samer Kaba, Alexander Lee, Mark I. Ryder, Barbara Potempa, Piotr Mydel, Annelie Hellvard, Karina Adamowicz, Hatice Hasturk, Glenn D. Walker, Eric C. Reynolds, Richard L. M. Faull, Maurice A. Curtis, Mike Dragunow, Jan Potempa

*Corresponding author. Email: sdominy@cortexyme.com

This PDF file includes:

Fig. S1. CAB101 analysis of non-AD neurological disease brain microarrays. CAB101 staining of middle temporal gyrus for RgpB in (**A**) Parkinson's disease (PD), (**B**) amyotrophic lateral sclerosis (ALS), and (**C**) Huntington's disease (HD), reveals no significant difference when compared to control brain staining.
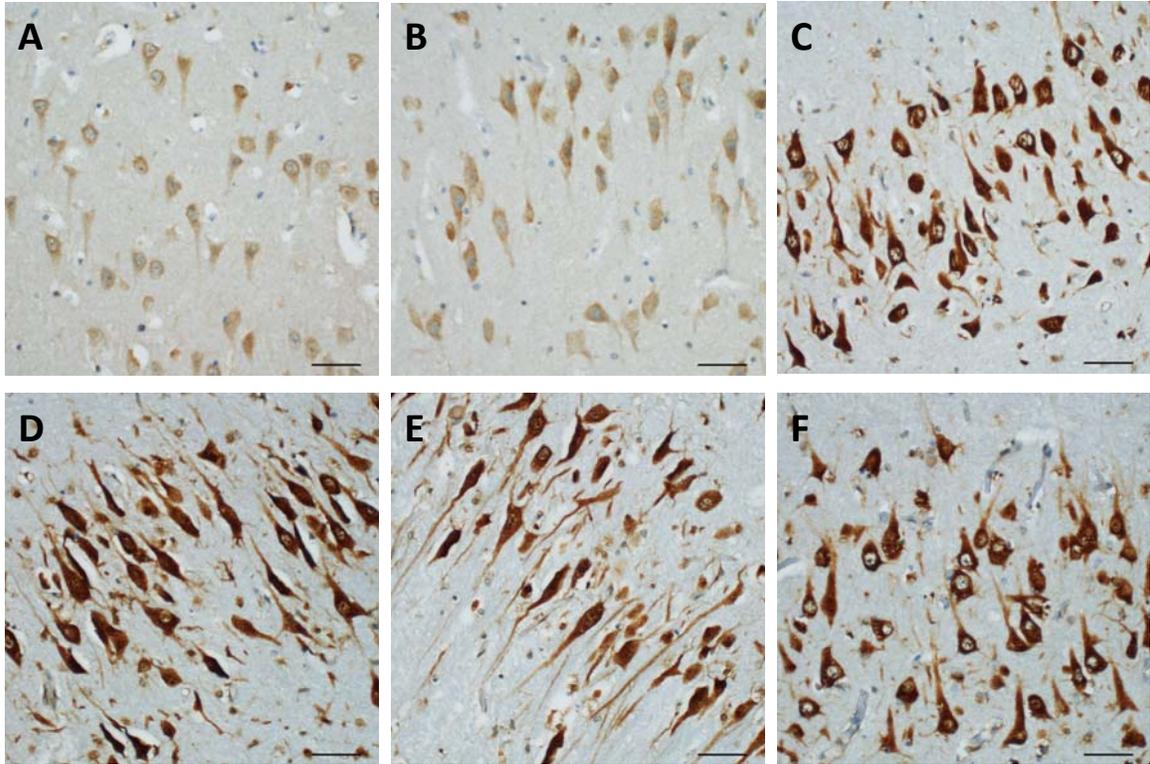
Fig. S2. RgpB IHC in hippocampal samples from nondemented and AD patients. RgpB IHC with monoclonal antibody 18E6 on pyramidal neurons of the CA3 region of the hippocampus was performed in a sample set obtained from a university brain bank with accompanying pathological diagnosis (n=14). Representative images of different levels of RgpB staining (brown color) in non-demented control (n=4) and AD diagnosed patients (n=10). Age, dementia status, and pathologic diagnosis for each subject are as follows: (**A**) 75-yo non-demented, no AD pathology. (**B**) 33-yo non-demented, very earliest forms of senile plaques. (**C**) 83-yo non-demented, minimal cognitive impairment (MCI), very mild AD pathology. (**D**) 66-yo demented, severe AD pathology. (**E**) 87-yo demented, severe AD pathology. (**F**) 61-yo demented, severe AD pathology. Scale bars 50 um.

A

F4   F5   PCR and Sequencing
                                                   primers
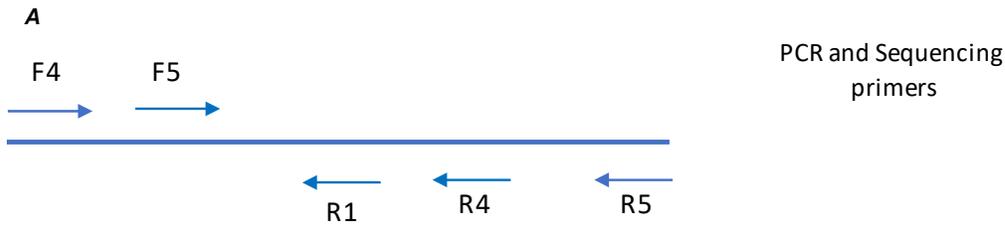
B

Disease State	Subject ID	PCR Primers	Sequencing Primers	% Identity
AD	83y	F5, R4	R1, R4	100, 100
AD	90y	F5, R4	R1, R4	99, 100
AD	80y	F5, R5	R5, R4	100,99

C

83y_R1
TTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGTCCCAGTTCAAATCGTTCTTA
TAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGCCACGTTTCGTATTTCGAAGCATCG
ATAGTTACGGTTTTGGTTACTGT

83y_R4
AGCAGGCCGATGAGGGCCTGCTTTGTTACTACACTTTTCATATTTCCCTCTTAACTTATTTAACGGGGTATG
TATAAGTGAAAGTGATGACTCCTTTTTTGAGTTCTGCATCCTGATAGTCAGTGAACTGCACTTTGGCAATAT
TACCATCAGCACCACGAACGAAGAAGACTCTTTTGCTCAGCTTGTAAGTGGGACCGGCAGGACCGTGAGAGA
ATTCCAGCCAACCACCTGAAGCAAATCCCTGTGCGTTCTTCTTGCCGGTAATCACTTCGCTGAAGCCCTGTT
CTTCATATTCCATCTGATGACCATCAGGTCCCATTTCGTACTTGACTGTAATACGGCCGAGAACATCTACAG
TATATCCGTCTGTCGGAACGGTAGTAGCCTGATCCATTTCTGTCTTGCCGGAGAATACGGCACCACCTTTTC
CCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGTCCCAGTTCAAATCGTTCT
TATAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGCCACGTTTCGTATTTCGAAGCAT
CGATAGTTACGGTTTTGGTTACTG

90y_R4
TACTTATACTAAAGAAAAGCAGGCCGATGAGGGCCTGCTTTGTTACTACACTTTTCATATTTCCCTCTTAAC
TTATTTAACGGGGTATGTATAAGTGAAAGTGATGACTCCTTTTTTGAGTTCTGCATCCTGATAGTCAGTGA
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CTTCGCTGAAGCCCTGTTCTTCATATTCCATCTGATGACCATCAGGTCCCATTTCGTACTTGACTGTAATAC
GGCCGAGAACATCTACAGTATATCCGTCTGTCGGAACGGTAGTAGCCTGATCCA8100TTTCTGTCTTGCCG
GAGAATACGGCACCACCTTTTCCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCC
ATGTCCCAGTTCAAATCGTTCTTATAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGC
CACGTTTCGTATTTCGAAGCATCGATAGTTACGGTTTTGGTTACTGCTT

90y_R1
CCTTTTCCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGTCCCAGTTCAAA
TCGTTCTTATAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGCCACGTTTCGTATTTC
GAAGCATCGATAGTTACGGTTTTGGTTACTGCTTCGGGTGTGGAA

80y_R5
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CTTATTTAACGGGGTATGTATAAGTGAAAGTGATGACTCCTTTTTTGAGTTCTGCATCCTGATAGTCAGTG
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ACTTCGCTGAAGCCCTGTTCTTCATATTCCATCTGATGACCATCAGGTCCCATTTCGTACTTGACTGTAATA
CGGCCGAGAACATCTACAGTATATCCGTCTGTCGGAACGGTAGTAGCCTGATCCATTTCTGTCTTGCCGGAG
AATACGGCACCACCTTTTCCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATG
TCCCAGTTCAAATCGTTCTTATAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGCCAC
GTTTCGTATTTCGAAGCATCGATAGTTACGGTTTTGGTTACTG

80y_R4
TACTTATACTAAAGAAAAGCAGGCCGATGAGGGCCTGCTTTGTTACTACACTTTTCATATTTCCCTCTTAAC
TTATTTAACGGGGTATGTATAAGTGAAAGTGATGACTCCTTTTTTGAGTTCTGCATCCTGATAGTCAGTGA
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GGCCGAGAACATCTACAGTATATCCGTCTGTCGGAACGGTAGTAGCCTGATCCATTTCTGTCTTGCCGGAGA
ATACGGCACCACCTTTTCCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGT
CCCAGTTCAAATCGTTCTTATAGTCGGTAACATTTACGACTTCACCTTTGGAAAAAGAGAAATACTGCCACG
TTTCGTATTTCGAAGCATCGATAGTTACGGTTTTGGTTACTGCT

D
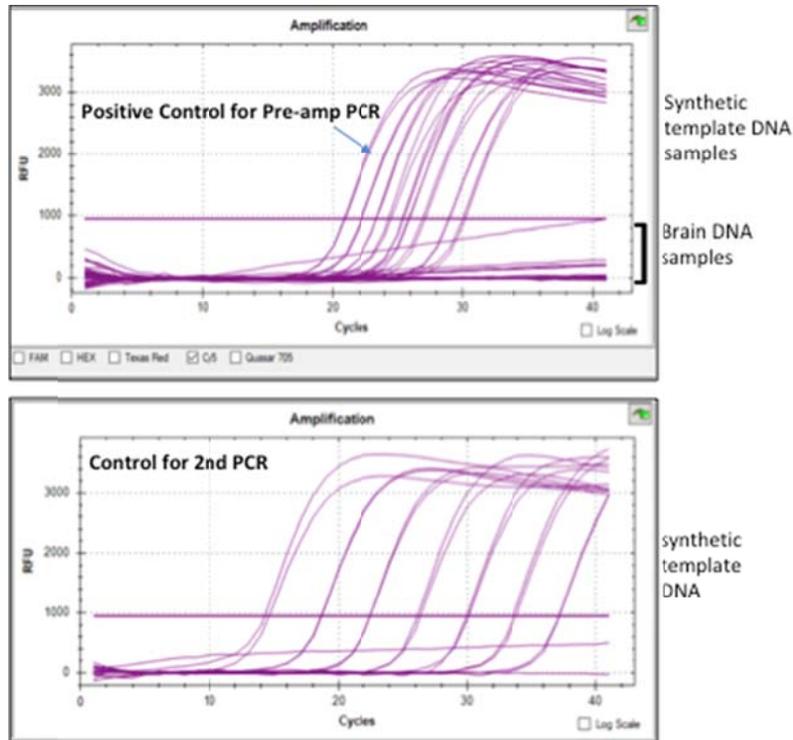
Fig. S3. Sequencing of *P. gingivalis hmuY* PCR products from AD brains. (**A**) PCR-sequencing strategy for the *P. gingivalis hmuY* gene. (**B**) Data table includes subject disease state and subject ID used in Fig. 3 of main text, sequencing primers used, and sequencing identity of PCR products to *P. gingivalis hmuY* DNA sequence. (**C**) PCR product sequences for each AD subject. (**D**) *H. pylori* synthetic template DNA samples used as positive control for PCR of human AD brains.

A

Subject ID	MMSE Score	Age	PCR primers	Sequencing Primers	% Identity
AD2	15	59	H1.2 and H1.1	H1.1 For and Rev	100, 99
AD4	17	72	H1.2 and H1.1	H1.1 For and Rev	100, 99
AD6	18	60	H1.2 and H1.1	H1.1 For and Rev	100, 97
AD7	18	60	H1.2 and H1.1	H1.1 For and Rev	100, 99
AD8	18	59	H1.2 and H1.1	H1.1 For and Rev	100, 100
AD9	18	62	H1.2 and H1.1	H1.1 For and Rev	99, 99
AD10	20	61	H1.2 and H1.1	H1.1 For and Rev	99, 98

B
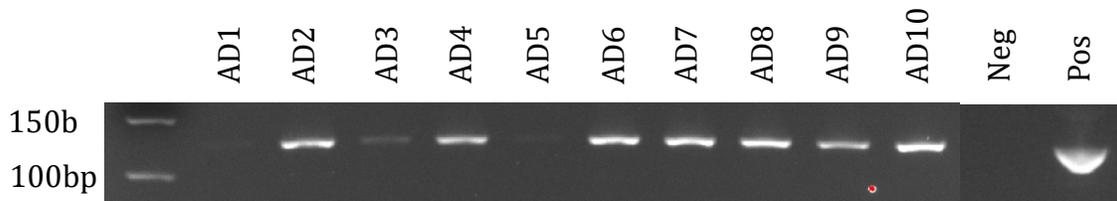
C

AD2_H1.1 For
TGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGACAGAAATGGATCAGGCTACTA
CC
AD2_H1.1 Rev
CCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGT
CCCAGTTCAAATCGTTA
AD4_H1.1 For
TGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGACAGAAATGGATCAGGCTACTA
CCGTTAA
AD4_H1.1 Rev
CCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGT
CCCAGTTCAAATC

AD6_H1.1 For
TGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGACAGAAATGGATCAGGCTACTA
CC
AD6_H1.1 Rev
CCTTTTCCCTTACCACTTTNNGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCAT
GTCCCAGTTCAAATCGTTAAAA
AD7_H1.1 For
GGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGACAGAAATGGATCAGGCTACTAC
C
AD7_H1.1 Rev
CGGCACCACCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAG
AGCCATGTCCCAGTTCAAATC
AD8_H1.1 For
TGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGACAGAAATGGATCAGGCTACTA
CCG
AD8_H1.1 Rev
CCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGT
CCCAGTTCAAATC
AD9_H1.1 For
TTCGTCTCATTGTGGCGAAAGTGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAGA
CAGAAATGGATCAGGCTACTACCGT
AD9_H1.1 Rev
CCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAGAGCCATGT
CCCAGTTCAAATCGTTCC
AD10_H1.1 For
GTTCGTCTCATTGTGGCGAAAGTGGTAAGGGAAAAGGTGGTGCCGTATTCTCCGGCAAG
ACAGAAATGGATCAGGCTACTACCG
AD10_H1.1 Rev
CGGCACCNCCTTTTCCTTACCACTTTCGCCACAATTGAGACGAACGTCATAGCGGTGAAG
AGCCATGTCCCAGTTCAAATCGTTCC

Fig. S4. Sequencing of *P. gingivalis hmuY* PCR products from clinical AD CSF. (**A**) Data table includes subject ID used in Fig. 4 of main text, Mini Mental Status Exam (MMSE) score, age and sequence identity of PCR products to *P. gingivalis hmuY* DNA sequence. (**B**) PCR products detecting *P. gingivalis* from CSF run on agarose gel including a negative-control and a positive-control (a synthetic DNA template). (**C**) Sequences of PCR product for each AD subject.

Table S1. NVD003 AD and control TMA patient data.

Case No.	Diagnosis	Age	M/F	PMD (hr)	Pathology - Diagnosis
AZ34	AD	74	F	18	CERAD: Definite Alzheimer's disease Atrophy: mod-2, Tangles: mod-2, Plaques: mod-2, ARP: C
AZ37	AD	83	M	4	CERAD: Probable Alzheimer's disease Atrophy: severe-3, Tangles: mod-2, Plaques: mild-1,
AZ38	AD	80	M	5.5	CERAD: Definite Alzheimer's disease Braak: V; Atrophy: mod-2, Tangles: mod-2, Plaques: frequent-3,
AZ39	AD	74	M	12	CERAD: Definite Alzheimer's disease Braak: VI Atrophy: mild-1, Tangles: mod-2, Plaques: mod-2,
AZ42	AD	60	M	7	CERAD: Definite Alzheimer's disease Braak: VI Atrophy: severe-3, Tangles: mild-1, Plaques: freq-3,
AZ43	AD	80	M	21	CERAD: Probable Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: mod-2,
AZ45	AD	82	M	4.5	CERAD: Probable Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: mod-2,
AZ46	AD	82	F	22	CERAD: Probable Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: mod-2,
AZ52	AD	68	F	36	CERAD: Definite Alzheimer's disease Atrophy: severe-3, Tangles: freq-3, Plaques: freq-3,
AZ55	AD	51	M	4	CERAD: Probable Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: mild-1,
AZ57	AD	82	F	14.5	CERAD: Possible Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: scant-1,
AZ58	AD	75	M	20	CERAD: Definite Alzheimer's disease Atrophy: severe-3, Tangles: freq-3 Plaques: freq-3,
AZ59	AD	83	M	15	CERAD: Possible Alzheimer's disease Atrophy: mild, Tangles: scant-1, Plaques: scant-1,
AZ61	AD	87	F	7.5	Definite Alzheimer's disease
AZ64	AD	67	M	8	CERAD: Definite Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: freq-3, ARP: C
AZ65	AD	77	F	16	CERAD: Alzheimer's disease (definite) Atrophy: severe, Tangles: mod, Plaques: numerous,
AZ68	AD	68	F	7	CERAD: Alzheimer's disease. Atrophy:severe, Tangles:numerous, Plaques:numerous,
AZ71	AD	62	F	6	CERAD: Definite Alzheimer's disease Braak: VI; Atrophy: 2/3, Tangles: 3/3, Plaques: 3/3,
AZ72	AD	70	F	7	CERAD: Indicative of Alzheimer's disease Braak: V; Atrophy: 0/3, Tangles: 1/3, Plaques: 3/3,
**AZ73	AD	87	F	14.5	Mixed Pathology: Alzheimer's disease & Cortical Lewy Body Dis. Braak: IV, Atrophy: 1/3, Tangles: 2/3, Plaques: 2/3,
AZ74	AD	85	F	16	CERAD: definite Alzheimer's disease. Braak: VI, Atrophy: 2/3, Tangles: 2/3, Plaques: 3/3,
AZ75	AD	81	M	25	CERAD: definite Alzheimer's disease. Braak: 5/6, Atrophy: 1/3, Tangles: 2/3, Plaques: 3/3,
AZ77	AD	81	F	16	CERAD: probable Alzheimer's disease. Braak: 4/6, Atrophy: 3/3, Tangles: 3/3, Plaques: 2/3,
AZ80	AD	77	M	4.5	CERAD: Definite Alzheimer's disease Braak: 6/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3,
AZ81	AD	82	F	18	CERAD: definite Alzheimer's disease. Braak: 6/6, Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3,
AZ82	AD	80	F	18	CERAD: diagnostic of Alzheimer's disease. Braak: 6/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3,
AZ83	AD	60	F	16	CERAD: Alzheimer's disease. Braak: 6/6, Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3,
AZ87	AD	73	M	5	CERAD: Definite Alzheimer's disease Braak: 5/6; Atrophy: 2/3, Tangles: 3/3, Plaques: 3/3,
AZ89	AD	80	F	25	CERAD: Definite Alzheimer's disease Braak: 6/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3, ARP: C
H190	Control	72	F	19	
4734	Control	79	M	8	
H123	Control	78	M	7.5	
H136	Control	75	M	13	
H155	Control	61	M	7	
H152	Control	79	M	18	
4680	Control	80	M	12	
H160	Control	77	M	23	
H198	Control	67	F	27	
H145	Control	54	M	8	
H196	Control	85	M	15	
H144	Control	76	M	18.5	
H202	Control	83	M	14	
H156	Control	89	M	19	
H148	Control	64	M	7	
H164	Control	73	M	13	
6013	Control	69	F	11.5	
H121	Control	64	F	5	

H122	Control	72	F	9	
02F/393	Control	87	F	11	
H187	Control	98	F	15	
H180	Control	73	M	33	
H150	Control	78	M	11	
H153	Control	76	M	8	
H188	Control	83	M	17	
H191	Control	77	M	20	
H127	Control	59	F	21	
H139	Control	73	M	5.5	
H137	Control	77	M	12	

Table S2. NVD005 AD and control TMA patient data.

Case No.	Diagnosis	Age	M/F	PMD (hr)	Pathology - Diagnosis
A10	AD	64	M		Dementia of the Alzheimer's type
A12	AD	72	M	9	Confident diagnosis of Alzheimer's disease
A13	PD	79	M	36	Developing idiopathic Parkinson's disease
AZ14	AD	77	F	15	Appearances are those of a dementia of Alzheimer's type
AZ15	AD/PD	80	M	3.5	Cerebral cortical findings> AD; SN > idiopathic PD
AZ24	AD	82	F	97	CERAD: Definite Alzheimer's disease Atrophy: mild-1, Tangles: mod-2, Plaques: freq -3, ARP: C
AZ33	AD	65	M	20	CERAD: Definite Alzheimer's disease Atrophy: mid-1, Tangles: mild-1, Plaques: mod-2, ARP: C
AZ60	AD	83	M	8	Alzheimer's disease
AZ62	AD/Epil	80	F	11	Alzheimer's disease [+ history of epilepsy]
AZ78	AD	87	F	7	CERAD: probable Alzheimer's disease. Braak: 3/6, Atrophy: 2/3, Tangles: 2/3, Plaques: 1/3, ARP: B
AZ85	AD	85	M	57	CERAD: probable Alzheimer's disease Braak: 4/6, Atrophy: 0/3, Tangles: 2/3, Plaques: 1/3, ARP: B
AZ86	AD	92	M	8.5	CERAD: possible Alzheimer's disease Braak: 3/6, Atrophy: 0/3, Tangles: 1/3, Plaques: 1/3, ARP: A
AZ88	AD	83	M	21	CERAD: Definite Alzheimer's disease Braak: 4/6; Atrophy: 2/3, Tangles: 3/3, Plaques: 3/3, ARP: C
AZ89	AD	80	F	25	CERAD: Definite Alzheimer's disease Braak: 6/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3, ARP: C
AZ90	AD	73	M	4	CERAD: Definite Alzheimer's disease Braak: 4/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3, ARP: C
AZ91	AD	80	M	29	CERAD: Definite Alzheimer's disease Braak: 5/6; Atrophy: 2/3, Tangles: 3/3, Plaques: 3/3, ARP: C
AZ92	AD	93	F	11.5	CERAD: Probable Alzheimer's disease Braak: 4/6, Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3, ARP: B
AZ93	AD	83	M	15	CERAD: Probable Alzeimer Disease (mod paque density); Braak Stage V
AZ95	AD	69	M	12	CERAD: Alzheimer's disease. Braak: 5/6, Atrophy: 3/3, Tangles: 2/3, Plaques: 3/3, ARP: C
AZ96	AD	74	F	8.5	CERAD: Alzheimer's disease Braak: 5/6; Atrophy: 3/3, Tangles: 3/3, Plaques: 3/3, ARP: C
AZ98	AD	91	F	20.5	Alzheimer's disease
AZ99	AD	94	F	8.5	Alz-type neuropath. change (A3, B3, C2), Braak V-VI; small vessel cerebrovascualr wth focal lacunar infarction; focal cerebral amyloid angiopathy
AZ101	AD	75	M	12.5	AD neuopath. change (A3, B3, C2), Braak VI; cerebral amyloid angiopathy; old infarction in R temporo-occipital; small vessel cerebrovascular disease
AZ102	AD	84	F	14.5	Alz-type neuopathological change (A3, B2, C2), Braak IV; hyaline arteriosclerosis
AZ103	AD	87	M	<24	Alz-type neuropathiclogic change (A3, B2, C2), Braak IV; cerebral amyloid angiopathy; small vessel disease
AZ107	AD	86	M		Intermediate AD change (A2, B3, C1), Braak VI; Amygdala predominant Lewy body diseease; deep small vessel disease; cerebral amyloid angiopathy
AZ108	AD	94	F	11.5	Consistent with Alzheimer's disease (NIA-AA score A3 B3 C2, high degree of AD change), LBD, amygdala predominat, cerebral amyloid angiophaty, hyaline arteriolosclerosis
AZ109	AD	90	F	31	Consistent with Alzheimer's disease (NIA-AA score A3 B2 C1, intermediate AD change), cerebral amyloid angiophaty, hyaline arteriolosclerosis
AZ110	AD	86	F	15	Consistent with Alzheimer's disease (NIA-AA score A3 B3 C2, high AD change); hippocampal sclerosis with associated TDP-43 path; LBD, difuse; focal cerebral amyloid angiopathy; small
H151	control	64	F	5	
H159	control	53	M	16.5	

H165	control	43	F	26
H168	control	63	M	9
H169	control	81	M	24
H170	control	60	M	17
H174	control	59	M	24.5
H177	control	22	M	21
H183	control	61	M	10
H184	control	35	M	20
H185	control	50	M	28-31
H186	control	68	M	21
H192	control	65	F	23-28
H194	control	68	M	22.5
H195	control	65	M	18
H197	control	19	F	40
H200	control	56	M	23
H209	control	48	M	23
H211	control	41	M	8
H215	control	67	F	23.5
H226	control	73	F	48
H230	control	57	F	32
H231	control	65	M	8
H238	control	63	F	16
H239	control	64	M	15.5
H240	control	73	M	26.5
H242	control	61	M	19.5
H243	control	77	F	13
H245	control	63	M	20

Table S3. Tau fragments identified by MS after gingipain exposure.

No. observations following 1 nm Kgp/Rgp	No. observations following 10 nm Kgp/Rgp	Peptide sequence	Score	Uniprot protein accession numbers*
2	19	HLSNVSSTGSIDMVDSPQLATLADEVSASLAK	32.14	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	9	qAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQAR	31.34	A0A024RA17
1	15	QAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQAR	29.75	A0A024RA17
	20	KDQGGYTMHQDDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAK	28.61	A0A0G2JMX7,A0A024RA19,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
3	3	HLSNVSSTGSIDMVDSPQLATLADEVSASLAKQGL	28.58	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
1	7	HLSNVSSTGSIDmVDSPQLATLADEVSASLAK	28.58	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	5	DNIKHVPGGGSVQIVYKPVDLSKVTSK	28.18	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	5	qEFEVMEDHAGTYGLGDR	27.84	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,A0A0G2JQJ7,I3L2Z2
	2	DQGGYTMHQDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAK	27.71	A0A0G2JMX7,A0A024RA19,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
1	5	HLSNVSSTGSIDmVDSPQLATLADEVSASLAKQGL	26.96	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	42	TDHGAEIVYKSPVVSGDTSPR	26.04	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	10	QEFEVMEDHAGTYGLGDR	25.09	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,A0A0G2JQJ7,I3L2Z2
	2	ESPLQTPTEDGSEEPGSETSDAKSTPTAEDVTAPLVDEGAPGK	25.03	A0A0G2JMX7,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	15	KDQGGYTmHQDDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAK	24.66	A0A0G2JMX7,A0A024RA19,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	4	LQTAPVPMPDLKNVSKIGSTENLK	24.49	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	3	qEFEVmEDHAGTYGLGDR	23.7	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,A0A0G2JQJ7,I3L2Z2
	1	STPTAEDVTAPLVDEGAPGKQAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQA	23.63	A0A024RA17
	6	ESPLQTPTEDGSEEPGSETSDAK	23.15	A0A0G2JMX7,A0A024RA19,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	3	IGSLDNITHVPGGGNK	22.88	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	2	AAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQAR	22.1	A0A024RA17
	8	VQSKIGSLDNITHVPGGGNK	22.04	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	9	QEFEVmEDHAGTYGLGDR	21.6	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,A0A0G2JQJ7,I3L2Z2
	12	HVPGGGSVQIVYKPVDLSKVTSK	21.34	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	8	LQTAPVPMPDLKNVSK	21.24	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	19	TPPAPKTPPSSGEPPKSGDR	21.06	A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	8	SGYSSPGSPGTPGSR	20.52	A0A0G2JMX7,A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	10	DNIKHVPGGGSVQIVYKPVDLSK	19.35	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	9	STPTAEDVTAPLVDEGAPGK	18.7	A0A0G2JMX7,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	4	LQTAPVPMPDLKNVK	18.63	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	9	LQTAPVPmPDLKNVK	18.29	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	13	HVPGGGSVQIVYKPVDLSK	18.19	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	3	LQTAPVPmPDLKNVKSKIGSTENLK	17.97	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
1	1	SRLQTAPVPMPDLKNVK	17.81	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	13	VQIINKKLDLSNVQSK	16.51	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	15	AKTDHGAEIVYKSPVVSGDTSPR	15.89	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	8	TPSLPTPPTR	15.76	A0A0G2JMX7,A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	LDLSNVQSK	14.89	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
1	21	SRTPSLPTPPTR	14.25	A0A0G2JMX7,A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	2	NVSSTGSIDMVDSPQLATLADEVSASLAK	13.84	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	LSNVSSTGSIDMVDSPQLATLADEVSASLAK	13.58	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	5	SPVVSGDTSPR	11.9	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	2	LQTAPVPmPDLK	10.34	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	2	IGSLDNITHVPGGGNKKIETHKLTFR	9.66	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	qAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQARMVSK	9.43	A0A024RA17
	14	ENAKAKTDHGAEIVYKSPVVSGDTSPR	9.42	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	2	GADGKTKIATPR	8.91	A0A0G2JMX7,A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	27	GAAPPGQKGQANATR	8.9	A0A0G2JMX7,A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7
	1	HLSNVSSTGSIDMVDSPQLATLADEVSASLA	8.7	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	VQSKIGSLDNITHVPGGGNKK	8.24	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
1	3	LQTAPVPMPDLK	7.98	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	SNVSSTGSIDMVDSPQLATLADEVSASLAK	7.91	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	4	IPAKTPPAPKTPPSSGEPPKSGDR	7.86	A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	LQTAPVPMPDLKNVSKIGSTENLKHQPGGGK	7.6	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	8	TPPAPKTPPSSGEPPK	7.1	A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	4	TPPSSGEPPKSGDR	6.52	A0A024R9Y0,A0A024RA17,A0A0G2JPD5,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	HLSNVSSTGSIDMVDSP	5.94	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	STGSIDMVDSPQLATLADEVSASLAK	5.79	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	HQPGGGKVQIINKKLDLSNVQSK	5.5	A0A0G2JMX7,A0A024R9Y0,A0A0G2JQJ7,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636
	1	LQTAPVPMPDLKN	5.19	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	AVVR	4.53	A0A0G2JMX7,A0A024R9Y0,Q96PD2,A0A0G2JPD5,A0A0G2JS76,P10636,Q5T1A1,O75128,Q01813,Q5H9F3,Q8IZY2,Q8NEM2,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A024R9Y1,Q969Y0,P08237,Q8TEQ6,A0A024RA19,I3L170,Q6L8Q7,A0A0G2JQJ7,A6NC98,B3KTM0
	1	NVSSTGSIDmVDSPQLATLADEVSASLAK	4.11	A0A0G2JMX7,A0A024R9Y0,B4DSE3,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0
	1	VAVVR	4	A0A0G2JMX7,A0A024R9Y0,B4DSB3,A0A024RA17,A0A0G2JPD5,A0A0G2JS76,A0A024R9Y1,P10636,A0A024RA19,I3L170,A0A0G2JQJ7,B3KTM0

*LC-MS/MS raw data searched against Uniprot Human + *Porphyromonas gingivalis* + decoy sequence databases.

Table S4. Demographic information of patients with CP who donated saliva and subgingival plaque samples. (See Fig. 8 of main text.)

ID	Gender F/M	Age	Race W=White B=Black	Ethnicity H=Hispanic NH=Non-Hispanic	Periodontal Disease Diagnosis	Duration Periodontal Dx	Previous Periodontal Tx	Medical Hx	Current Medications	Relavant Family Hx
CB01	M	56	W	NH	Severe chronic periodontitis	3 years ago	Scaling and Root Planing and Surgery 2013	None reported	None reported	No
CB02	M	59	W	NH	Severe chronic periodontitis	4 years ago	None reported	None reported	None reported	No
CB03	F	79	W	NH	Severe chronic periodontitis	3 years ago	Scaling and root Planing in the past year	Osteoarthritis	Tylenol, as needed	No
CB04	M	61	B	NH	Severe chronic periodontitis	7 years ago	Scaling and root Planing in the past year	Asthma	Albuterol and Flovent inhaler, as needed	No
CB05	M	67	W	NH	Severe chronic periodontitis	13 years ago	Scaling and root Planing and surgical Tx in 2012	None reported	Baby aspirin	No