

USDA-APHIS-PPQ-S&T- BELTSVILLE LABORATORY
IDPHY: MOLECULAR AND MORPHOLOGICAL IDENTIFICATION OF *PHYTOPHTHORA*
SOP-PID-05.04 MOLECULAR

ITS and COI accession numbers for *Phytophthora* species in clades 9, 10

SPECIES NAME, YEAR	ITS CLADE	TYPE	ISOLATE CODE	ITS rDNA	COI
<i>P. estuarina</i> (2016)	9	ET	CCIBt 4157 (NOT INCLUDED IN TREE)	KT886034	N/A
<i>P. rhizophorae</i> (2016)	9	ET	CCIBt 4152 (NOT INCLUDED IN TREE)	KT886031	N/A
<i>P. aquimorbida</i> (2012)	9a	ET	CPHST BL 128 (P19964)	MG783376	MH136847
<i>P. chrysanthemi</i> (2011)	9a	ET	CPHST BL 94 (P19843)	MG865472	MH136868
<i>P. hydrogena</i> (2014)	9a	ET	CPHST BL 129 (P19968)	MG865508	MH136902
<i>P. hydropathica</i> (2010)	9a	ET	CPHST BL 68 (P19616)	EU583793	N/A
<i>P. irrigata</i> (2008)	9a	ET	CPHST BL 41 (P16861)	MG865520	MH136914
<i>P. macilentosa</i> (2014)	9a	ET	CPHST BL 125 (P19993)	MG865527	MH136922
<i>P. parsiana</i> (2008)	9a	ET	CPHST BL 47 (P15164)	MG865562	MH136952
<i>P. virginiana</i> (2013)	9a	ET	CPHST BL 165 (P19829)	KC295544	MH477761
<i>P. insolita</i> (1981)	9b	ET	CPHST BL 144, 45G (P6195)	MG865515	MH136909
<i>P. polonica</i> (2006)	9b	ET	UASWS0198, CPHST BL 109 (P19522)	DQ396410	MH136960
<i>P. prodigiosa</i> (2017)	9b	ET	PF6e (CBS 135138)	KC875840	KT366918.
<i>P. captiosa</i> (2006) (16)	10a	ET	CPHST BL 11 (P10719)	MG865469	MH136865
<i>P. constricta</i> (2011)	10a	ET	CPHST BL 61 (P19614)	MG865480	MH136876
<i>P. fallax</i> (2006)	10a	ET	CPHST BL 63 (P10722)	MG865489	MH136885
<i>P. macrochlamyospora</i> (1991) (11)	10a	ET	CPHST BL 71 (P10263)	MG865528	MH136923
<i>P. quininea</i> (1947) (13)	10a	ET	CPHST BL 54G (P8488)	MG865580	MH136972
<i>P. richardiae</i> (1927)	10a	SE1	CPHST BL 76 (P7789)	MK496521	MH136974
<i>P. boehmeriae</i> (1927) (14)	10b	ET	CPHST BL 32G (P6950)	MG783382	MH136852
<i>P. gallica</i> (2008)	10b	ET	CPHST BL 35 (P16826)	MG865497	MH136893
<i>P. gondwanensis</i> (2017)	10b	ET	W1858 (CBS 139336)	KP070695	N/A
<i>P. intercalaris</i> (2015)	10b	ET	45B7 (CBS 140632)	KT163268	N/A
<i>P. kernoviae</i> (2005) (2)	10b	ET	CPHST BL 91 (P19827)	MG865521	MH136915
<i>P. morindae</i> (2010)	10b	ET	CPHST BL 49G (P19748)	MG865543	MH136936

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MG865520	MH477761
MG865527	MH136909
MG865562	MH136960
KC295544	KT366918.
MG865515	MH136865
DQ396410	MH136876
KC875840	MH136885
MG865469	MH136923
MG865480	MH136972
MG865489	MH136974
MG865528	MH136852
MG865580	MH136893
MK496521	MH136915
MG783382	MH136936
MG865497	
KP070695	
KT163268	
MG865521	
MG865543	

NOTE: *P. estuarina* and *P. rhizophorae* position in sub-clade 9a. These species were not included in the ITS rDNA phylogenetic tree prepared on 2.23.2018. *Phytophthora estuarina* positions close to *P. macilentosa* and *P. rhizophorae* positions close to *P. virginiana*.

