

**Supplementary Table ST4. Reference non-reducing PKSs with known activity and/or (end) products.**

Gene name	Synonym	Description	Source
FGSG_03964	<i>pks14</i>	involved in orsellinic acid and orcinol biosynthesis	(Jørgensen et al. 2014)
CC1G_05377	<i>pks1</i>	involved in orsellinic acid synthesis (evidence from heterologous expression in yeast)	(Ishiuchi et al. 2012)
PMAA_101600	<i>pks12</i>	involved in mitorubrinol/mitorubrinic acid biosynthesis	(Woo et al. 2012)
ANIA_06448	<i>pkbA</i>	involved in cichorine biosynthesis	(Sanchez, Entwistle, et al. 2012)
CHGG_10128	-	involved in 6-methylorsellinic acid synthesis (evidence from heterologous expression in yeast)	(Ishiuchi et al. 2012)
ATEG_10080	<i>trt4</i>	involved in terretonin biosynthesis	(Guo et al. 2012)
ANIA_08383	<i>ausA</i>	involved in austinol biosynthesis	(Lo et al. 2012)
Pc21g05070	<i>sorbB</i>	involved in sorbicillinoid biosynthesis	(al Fahad et al. 2014)
PMAA_101860	<i>pks3</i>	involved in biosynthesis of red pigment/monascorubrin/ankaflavin/ citrinin	(Woo et al. 2014)
PMAA_101550	<i>pks11</i>	involved in mitorubrinol/mitorubrinic acid biosynthesis	(Woo et al. 2012)
TSTA_117750	<i>tropA</i>	involved in tropolone biosynthesis	(Davison et al. 2012)
ANIA_07903	<i>dbal</i>	involved in biosynthesis of DHMBA (dihydroxy-3-methyl-6-(2-oxopropyl)benzaldehyde) and violaceols	(Gerke et al. 2012)
CHGG_10027	-	involved in 6-methylorsellinic acid synthesis (evidence from heterologous expression in yeast)	(Ishiuchi et al. 2012)
ANIA_03230	<i>pkfA</i>	involved in biosynthesis of aspernidine	(Yaegashi et al. 2013)
ANIA_01034	<i>afoE</i>	involved in asperfuranone biosynthesis	(Chiang et al. 2009)
ANIA_07909	<i>orsA</i>	involved in biosynthesis of orsellinic acid, F-9975 and violaceol derivatives	(Sanchez et al. 2010)
FGSG_02395	<i>zea1, pks13</i>	involved in zearalenone biosynthesis	(Gaffoor and Trail 2006)
ANIA_07071	<i>pkgA</i>	involved in alternariol biosynthesis	(Ahuja et al. 2012)
AFUA_4G00210	<i>encA</i>	involved in endocrocin biosynthesis	(Lim et al. 2012)
ANIA_06000	<i>aptA</i>	involved in asperthecin biosynthesis	(Szewczyk et al. 2008)
NFIA_112240	<i>nscA</i>	involved in neosartoricin biosynthesis	(Chooi et al. 2013)
ANIA_00150	<i>mdpG</i>	involved in biosynthesis of monodictyphenone, emodin and xanthone derivatives	(Sanchez et al. 2011)
ATEG_08451	<i>ACAS, gedC</i>	involved in biosynthesis of geodin and atrochryson	(Awakawa et al. 2009; Nielsen et al. 2013)
NCU03584	<i>THNS</i>	tetrahydroxynaphtalene synthase, involved in melanin biosynthesis (single NR-PKS in <i>Neurospora crassa</i> genome)	-
CHGG_00542	-	involved in biosynthesis of O-methyl diaporthin	(Ishiuchi et al. 2012)

		(evidence from heterologous expression in yeast), ortholog of THNS	
HMPREF1120_03173	<i>WdPKS1</i> , <i>THNS</i>	tetrahydroxynaphthalene synthase, involved in melanin biosynthesis	(Feng et al. 2001)
NechaG33672	<i>pksN</i>	involved in biosynthesis of red perithecial pigment	(Graziani et al. 2004)
ATEG_07500	<i>pksP</i>	putative <i>pksP</i> homolog involved in YWA1/perithecial pigment biosynthesis (similarity-based annotation)	(Sanchez, Somoza, et al. 2012)
AFUB_033290	<i>alb1</i> , <i>pksP</i>	involved in melanin biosynthesis through naphthopyrone route	(Langfelder et al. 1998)
An09g05730/ ANI_1_726084	<i>fwnA</i> , <i>albA</i>	involved in melanin biosynthesis through naphthopyrone route	(Jørgensen et al. 2011)
FVEG_03379	<i>bikS</i>	involved in bikaverin synthesis (evidence from orthology with <i>Fusarium fujikuroi</i> , observed chemotypes)	(Wiemann et al. 2009)
FOXG_04757	<i>bikS</i>	involved in bikaverin synthesis (evidence from orthology with <i>Fusarium fujikuroi</i> , observed chemotypes)	(Wiemann et al. 2009)
FGSG_02324	<i>aur1</i> , <i>pks12</i>	involved in aurofusarin biosynthesis	(Frandsen et al. 2006)
TRIREDRAFT_82208	<i>pks4</i>	involved in conidial pigment biosynthesis	(Atanasova et al. 2013: 4)
ANIA_07825	<i>stcA</i> , <i>pksST</i>	involved in sterigmatocystin biosynthesis	(Yu et al. 2004)
AFLA_139410	<i>afIC</i>	involved in aflatoxin biosynthesis	(Yu et al. 2004)
PODANSg8570	-	involved in sterigmatocystin biosynthesis	(Slot and Rokas 2011)
NechaG101778	<i>pgl1</i> , <i>fsr1</i>	unknown product	(Wiemann et al. 2009)
FGSG_09182	<i>pgl1</i>	involved in biosynthesis of violet perithecial pigment (by orthology with <i>F. fujikuroi</i> )	(Wiemann et al. 2009)
FVEG_03695	<i>pgl1</i> , <i>fsr1</i>	involved in biosynthesis of perithecial pigment B and fusarubin (by orthology with <i>F. fujikuroi</i> )	(Wiemann et al. 2009)

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