

Supplementary Information for

Carrier Protein Substrates in Cytochrome P450-Catalysed Oxidation

Max J. Cryle*

Supplementary Table 1. Carrier protein/P450 systems characterised to date

Cytochrome P450		Organism	Operon / Cluster	% ID	Substrate	Function	Characterisation		References
Name	CYP						Structural	Biochemical	
BioI	CYP107H1	<i>Bacillus subtilis</i>	Biotin Operon		Acyl-ACP	Carbon-carbon bond cleavage	Complex (3EJB, 3EJD, 3EJE)	Substrate Binding/Oxidation	1
CalO2	CYP248A1	<i>Micromonospora echinospora</i>	Calichemeicin Biosynthesis		Orsellinyl-ACP	Aromatic hydroxylation	Apo (3BUJ)	Substrate Binding	2
OxyD	CYP146	<i>Amycolatopsis balhimycina</i> DSM5908	Balhimycin Biosynthesis		Tyrosyl-PCP	Amino acid β -hydroxylation	Apo (3MGX)	Substrate Binding	3
NovI	CYP163A1	<i>Streptomyces sphaeroides</i> ATCC26935	Novobiocin Biosynthesis		Tyrosyl-PCP	Amino acid β -hydroxylation		Substrate Oxidation	4
NikQ	CYP162A1	<i>Streptomyces tendae</i> Tü901 ATCC31160	Nikkomycin X Biosynthesis		Histidinyl-PCP	Amino acid β -hydroxylation		Substrate Oxidation	5
OxyA	CYP165A1	<i>A. balhimycina</i> DSM5908	Balhimycin Biosynthesis	a	Peptidyl-PCP	Phenolic cross linking residues 2-4		<i>In vivo</i> metabolite analysis	6
OxyB	CYP165B1	<i>A. balhimycina</i> DSM5908	Balhimycin Biosynthesis	b	Peptidyl-PCP	Phenolic cross linking residues 4-6		<i>In vivo</i> metabolite analysis	6
OxyC	CYP165C1	<i>A. balhimycina</i> DSM5908	Balhimycin Biosynthesis	c	Peptidyl-PCP	Aryl cross linking residues 5-7		<i>In vivo</i> metabolite analysis	6
OxyB	CYP165B3	<i>Amycolatopsis orientalis</i> DSM40040	Vancomycin Biosynthesis	87% ^b	Peptidyl-PCP	Phenolic cross linking residues 4-6	Apo (1LFK, 1LG9, 1LGF)	Substrate Binding/Oxidation	7

OxyC	CYP165C4	<i>A. orientalis</i> DSM40040	Vancomycin Biosynthesis	88% ^c	Peptidyl- PCP	Aryl cross linking residues 5-7	Apo (1UED)		8
StaF	CYP165A4	<i>Streptomyces toyocaensis</i> NRRL15009	A47934 Biosynthesis	72% ^a	Peptidyl- PCP	Phenolic cross linking residues 2-4		<i>In vivo</i> metabolite analysis	9
StaG	CYP165D1	<i>S. toyocaensis</i> NRRL15009	A47934 Biosynthesis	^d	Peptidyl- PCP	Phenolic cross linking residues 1-3		<i>In vivo</i> metabolite analysis	9
StaH	CYP165B4	<i>S. toyocaensis</i> NRRL15009	A47934 Biosynthesis	77% ^b	Peptidyl- PCP	Phenolic cross linking residues 4-6		<i>In vivo</i> metabolite analysis	9
StaJ	CYP165C5	<i>S. toyocaensis</i> NRRL15009	A47934 Biosynthesis	49% ^c	Peptidyl- PCP	Aryl cross linking residues 5-7		<i>In vivo</i> metabolite analysis	9
Tcp18	CYP165D3	<i>Actinoplanes teichomyceticus</i> DSM43866	Teicoplanin Biosynthesis	80% ^d	Peptidyl- PCP	Phenolic cross linking residues 1-3	Apo (3O1A)	Substrate Binding	¹⁰

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