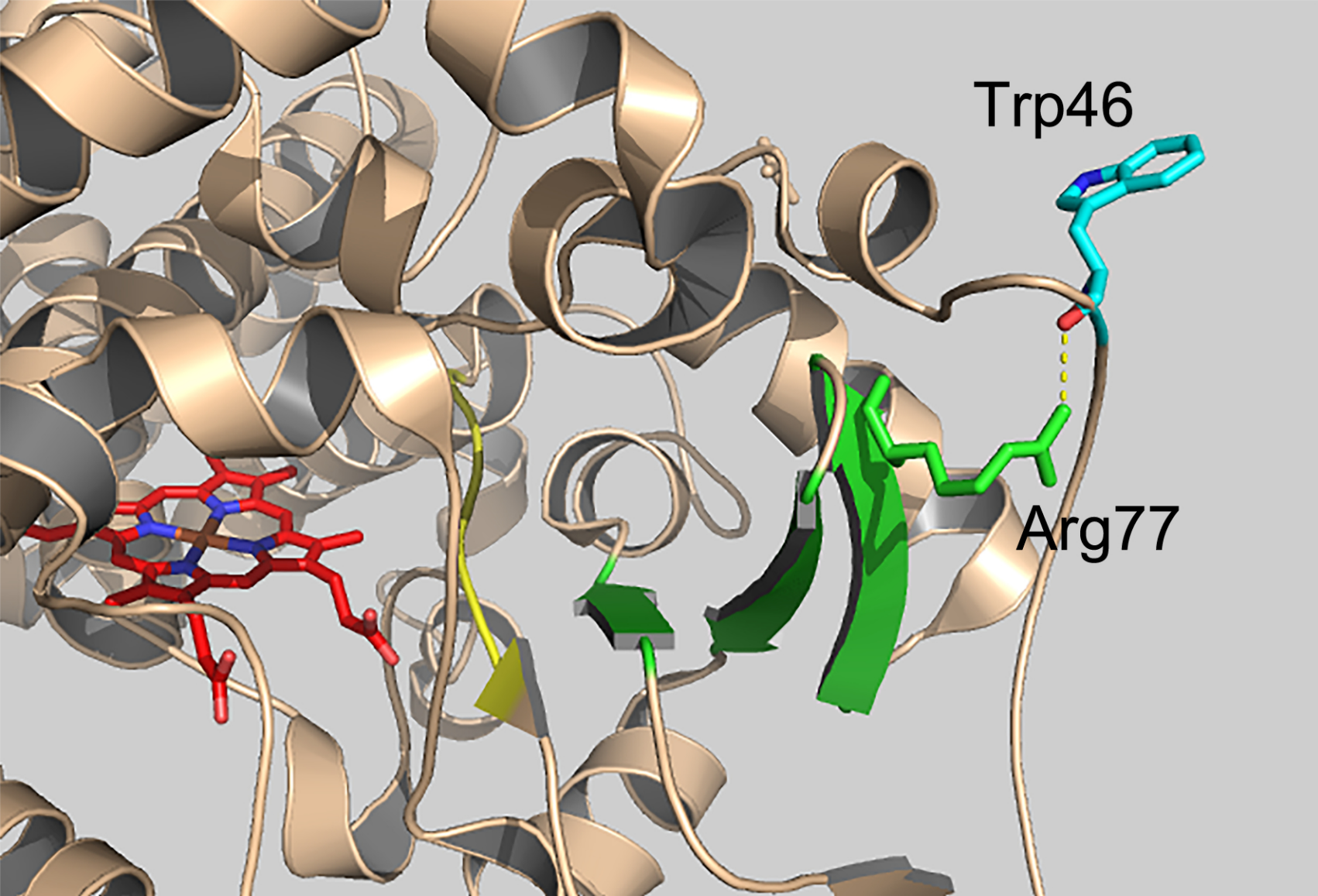


Table S1. Oligonucleotide primer sequences used for PCR and sequencing reactions.

Primer	Oligonucleotide sequence (5' to 3')	Description	
CYP1A1-F	CAG CTG TCT TGA GGT CTC TAC GC	Forward primer for cDNA cloning of canine CYP1A1	
CYP1A1-R	ACC CAG ACA GGC CAG GTA GAC AG	Reverse primer for cDNA cloning of canine CYP1A1	
N-ter-F	CG CTG GTG CAT ATG GCT TCT ATG TTT AGA CTT TCT ATT CCC	Forward primer for N-terminal modification of canine CYP1A1	
N-ter-R	GCT CTA GAC TAG GCT GCA GGG CTC	Reverse primer for N-terminal modification of canine CYP1A1	
Val50-F	G GGC GTG CCC CTG CTC GGG AAC	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Val	
Val50-R	CAG GGC CCC GGT GGA CTC TTC AG	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Val	
Ile50-F	GC ATT CCC CTG CTC GGG AAC GTG	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Ile	
Ile50-R	CCC AGG GCC CCG GTG GAC TCT TC	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Ile	
Met50-F	GC ATG CCC CTG CTC GGG AAC GTG	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Met	
Met50-R	CCC AGG GCC CCG GTG GAC TCT TC	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Met	
Canine CYP1A1	Phe50-F	G GGC TTT CCC CTG CTC GGG AAC	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Phe
	Phe50-R	CAG GGC CCC GGT GGA CTC TTC AG	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Phe
	Lys50-F	GC AAG CCC CTG CTC GGG AAC GTG	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Lys
	Lys50-R	CCC AGG GCC CCG GTG GAC TCT TC	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Lys
	Asp50-F	GC GAT CCC CTG CTC GGG AAC GTG	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Asp
	Asp50-R	CCC AGG GCC CCG GTG GAC TCT TC	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Asp
	Asn50-F	GC AAT CCC CTG CTC GGG AAC GTG	Forward primer for site-directed mutagenesis of coding sequence of codon 50 into a Asn
	Asn50-R	CCC AGG GCC CCG GTG GAC TCT TC	Reverse primer for site-directed mutagenesis of coding sequence of codon 50 into a Asn
	genomic-F	CTT TTA GGC TGT GGC CAA GAC G	Forward primer for amplification of genomic DNA encompassing codons 50 and 52
	genomic-R	GTA ACC AGA GAG AAG CTG TAG AG	Reverse primer for amplification of genomic DNA encompassing codons 50 and 52
	genomic-S	GTT CAG ACT CTC CAT CCC CAT C	Sequencing primer for DNA encompassing codons 50 and 52
Human CYP1A1	W46L-F	C TTA CCT CTG ATT GGG CAC ATG	Forward primer for site-directed mutagenesis of coding sequence of Trp46 into a Leu
	W46L-R	CCC CAT GGC CCT GGT GGA TTC	Reverse primer for site-directed mutagenesis of coding sequence of Trp46 into a Leu



Supplementary Fig. S1. A three-dimensional structure of human CYP1A1 (Hm; PDB ID: 4I8V). A ribbon model of the PR region harboring Trp46 (shown in cyan) and adjacent structural segments such as  $\beta$ -sheet 1 (green), substrate recognition site 5 (yellow) and heme (red). The dotted line indicates a putative hydrogen bond between Trp46 and Arg77.