

## Supplemental Material

Supplemental Table 1. Sequence of primers used.

Primer name	5'-3' sequence
zfCYP1Adir	GTCGACATGGCTCTGACTATTCTTCC
zfCYP1Arev	GAATTCCTAGAACCCAGGCTGTGGTGTGACC
zfCYP1B1dir	GGAGATCTATGATGGATGTCCTGCTGGC
zfCYP1B1rev	GAATTCTCAATCACATTTTCAGTCTC
zfCYP1C1dir	GGATCCATGCGGGAATGGAGCGGACAGG
zfCYP1C1rev	GGTACCTCATGCCGGTGAACCAAGCC
zfCYP1C2dir	GGATCCATGGCGCAGTCGGATTCAGAGTTC
zfCYP1C2rev	GGTACCTCAATCTACAATGCTTCCCCTGG
zfCYP1D1dir	GGATCCATGAATCTTGAGAATATCTCCC
zfCYP1D1rev	GAATTCTTAGTTACGAGGTATGATTTTTATTC

**Supplemental Table 2.**

**Dealkylation of resorufin substrates by CYP1s expressed via pYES/DEST52, normalized to the amounts of V5-tag expressed for each CYP.**

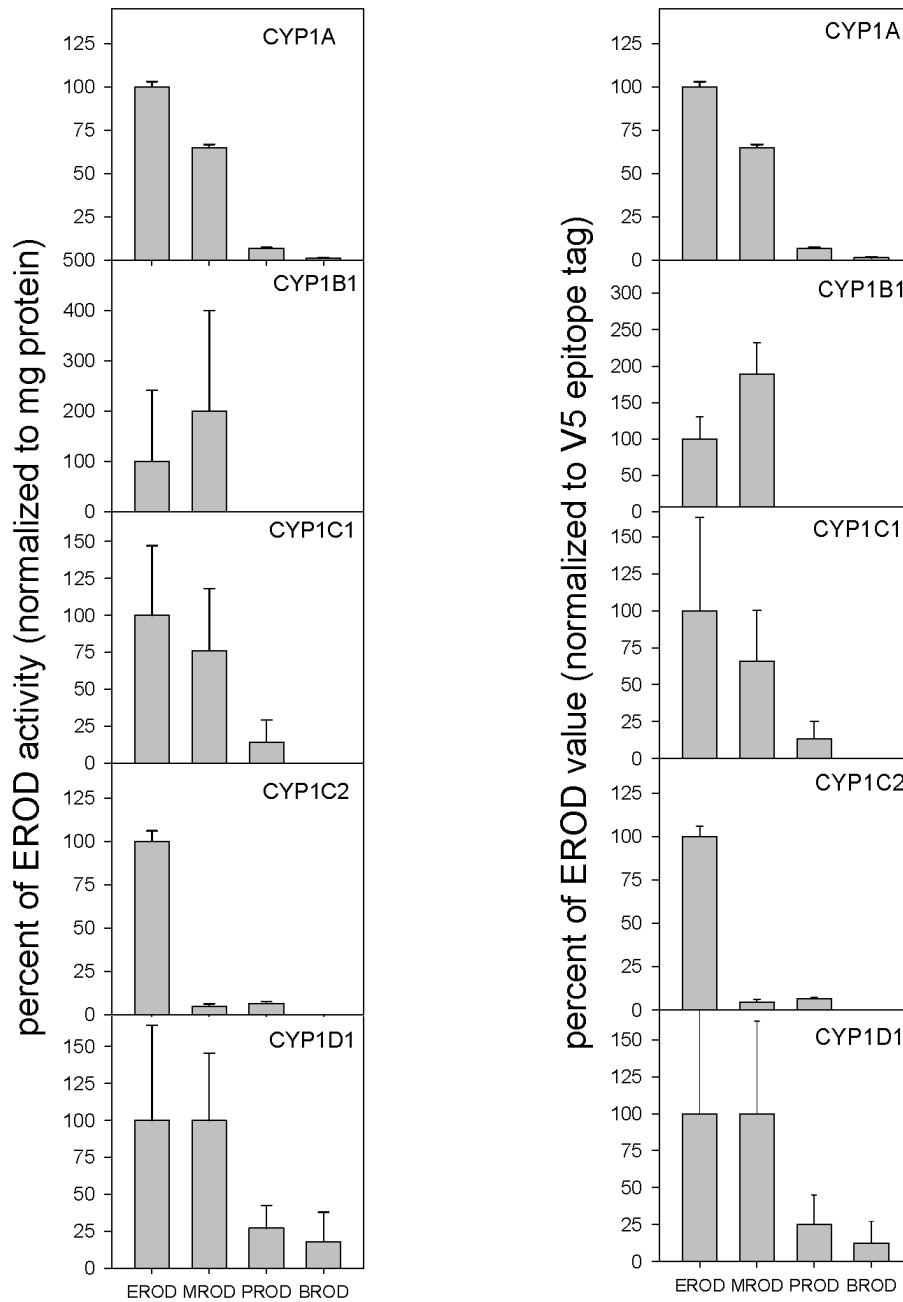
Substrate	CYPs from pYES/DEST52				
	Activities in pmol / min normalized to V5-tag amount <sup>a</sup>				
	1A	1B1	1C1	1C2	1D1
ER	89.3±1.9	3.9±0.2	3.8±1.7	56.4±2.4	0.8±0.5
MR	58.1±0.8	1.7±0.1	2.5±0.7	2.6±0.8	0.8±0.0
PR	6.3±0.3	-ND-	0.5±0.4	3.6±0.6	0.2±0.1
BR	1.3±0.3	-ND-	-ND-	-ND-	0.1±0.1

<sup>a</sup> The amounts of V5-tag were determined by densitometric analysis of electrophoretic bands as in Text Figure 2. The density of stain in bands from yeast expressing CYP1A was set as 1.0. Abbreviations ER, MR, PR and BR, are ethoxy-, methoxy-, propyloxy- and benzoxyresorufin respectively).



**Supplemental Figure 2.**

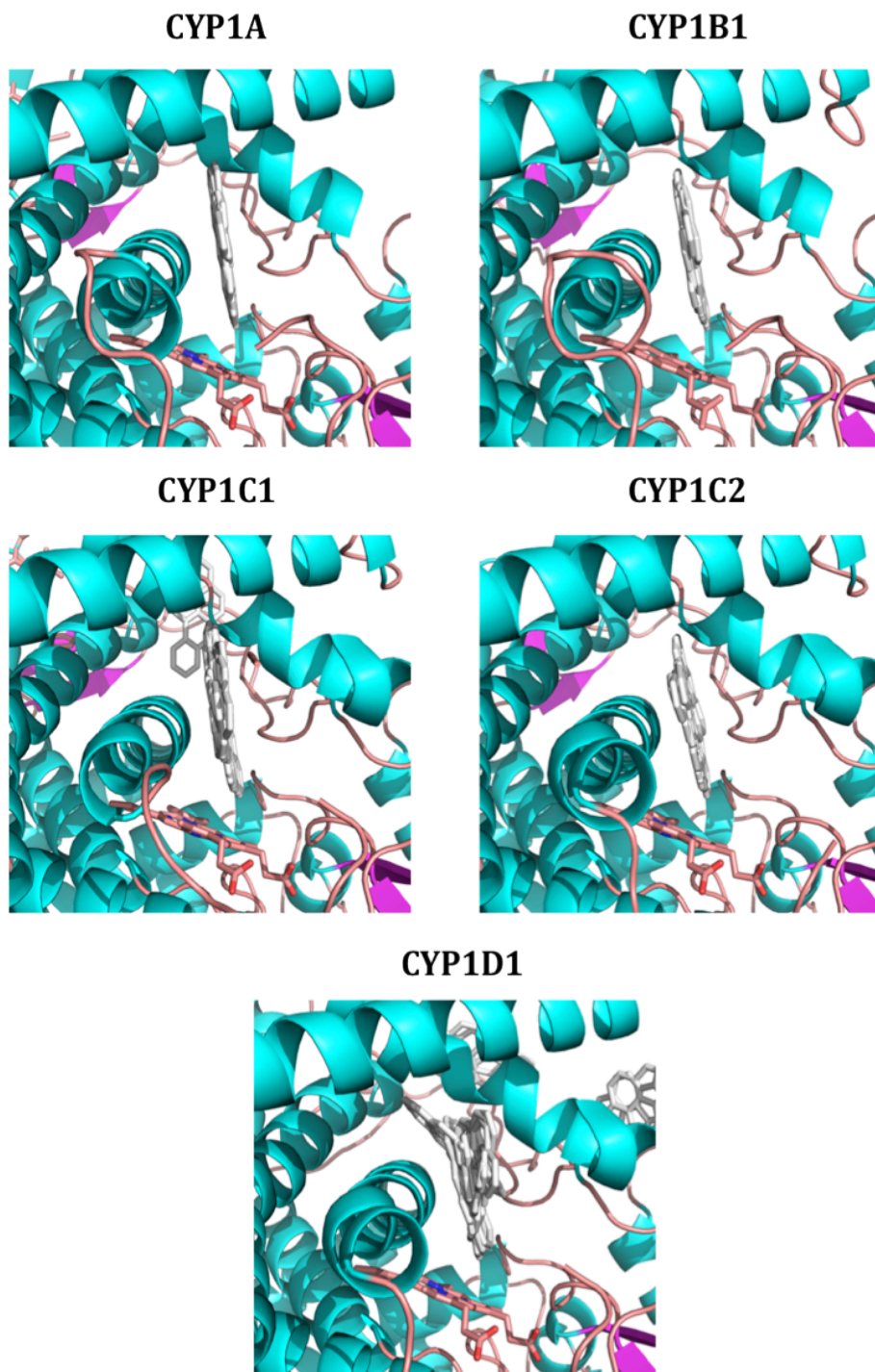
**Relative activities of zebrafish CYP1s expressed via pYES/DEST52 in yeast.** Comparison of activities normalized to mg microsomal protein to activities normalized to amounts of V5-tag expressed.



**Supplemental Figure 3.**

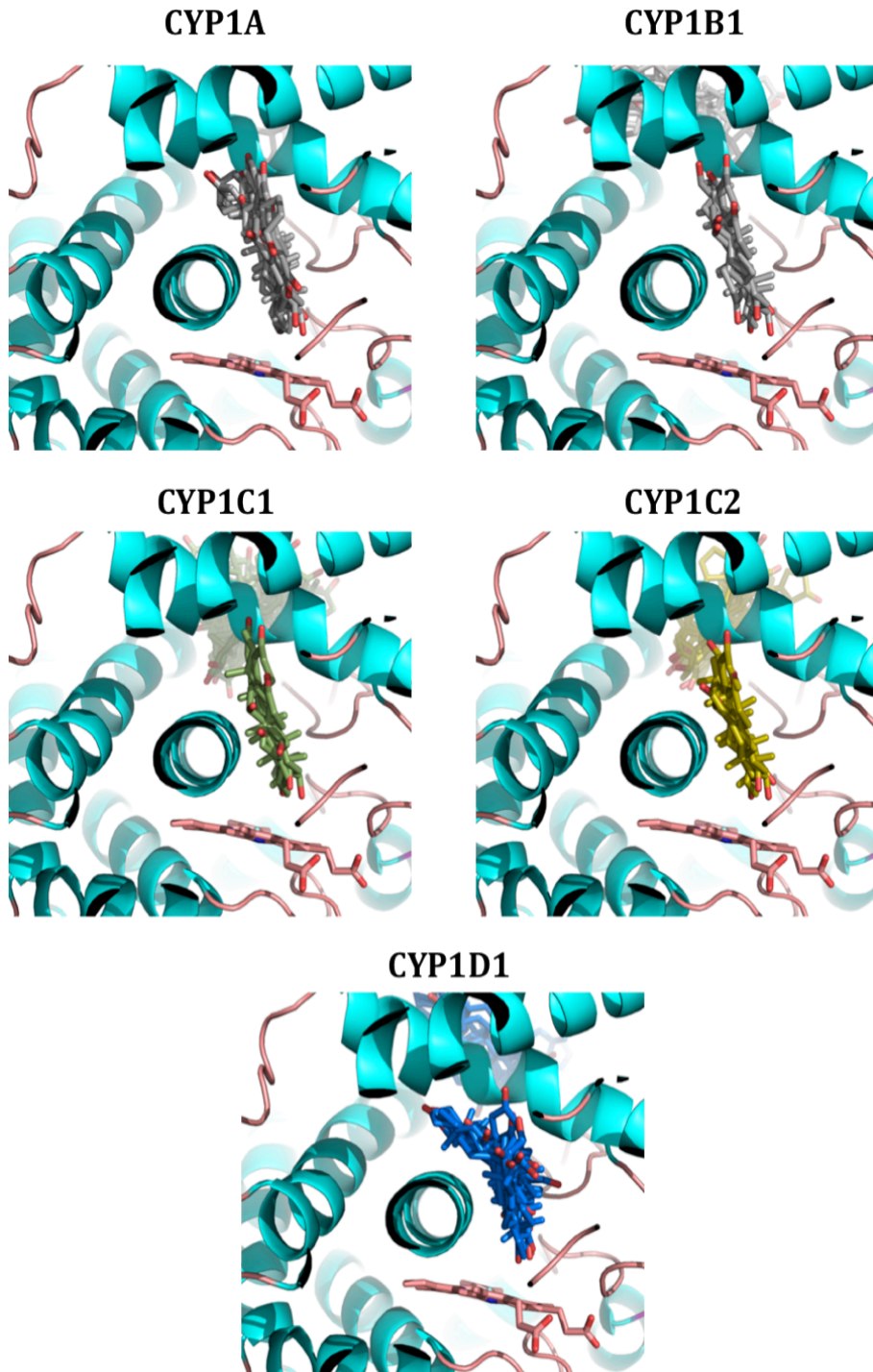
**All docking positions for benzo[a]pyrene into the models for the five zebrafish CYP1s.**

Note that the aggregate docking positions are planar for all models except CYP1D1.



**Supplemental Figure 4.**

**All docking positions for testosterone into the models for the five zebrafish CYP1s.** Note that, similar to BaP, the testosterone aggregate docking into the CYP1D1 model is more diverse, and the area occupied by docking position is 'bent' over the I-helix.



## **Supplemental References**

1. Kloepper-Sams PJ, Park SS, Gelboin HV, Stegeman JJ. Specificity and cross-reactivity of monoclonal and polyclonal antibodies against cytochrome P-450E of the marine fish scup. Arch Biochem Biophys, 1987, 253:268-278.