Role of Chromatin Structural Changes in Regulating Human CYP3A Ontogeny

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Drug Metabolism and Disposition

Supplemental Table 1: qPCR Primers for Quantifying ChIP Products

Element	Amplicon	Forward Primer	Reverse Primer	Size (bps)
		CYP3A4		
CLEM4[1]	8	GCATGTAAGTAGCTGTCTTTCAGG	CCATCTTACTGGCATAATCCTTGTTG	243
	7	CCTAATAATGTGTTTTGGGGTAA	CAAAGCTTCCAAGGTTGCAGAC	272
	5	CTCGTGGTCTGCAACCTTG	TCTGAGCCACAGAGTGACCTA	306
	3	CCAATGCTCCCTTCCGTAGGTCA	GAGTCAGGTACTAGGCTTGGTAAT	251
XREM[2]	1	AGGTCCCCTGGAAAGTCACTG	TTACAAACTGGGCTTTATGAC	182
	2	TGGTTGCTGGTTTATTCTAGAG	ATTTCAAGGGCACCGAGAG	168
	3	AGAAACTCATGTCCCAATTAAAG	ATGATTTCAAGGGCACCGAG	118
	4	GCCCAGTTTGTAAACTGAGATG	ACAGGACAAGGTTTAATAATC	157
	5	GTGCCCTTGAAATCATGTCG	GAATATGATAGCTTGTTCTT	142
C/EBPβ[3]	1	ACCATTTGCTTAAAACATCATGCAC	GCGTCTTGAAAAACATAGATCTTG	198
	2	GAGGGACTGAAGACAAGGAAA	GAAATTAGTGAAGGAAATGAAGATC	216
	4	CATCTCATGATGATCTTCATTTC	AACAGGTAAAAGAGAAATCAGAGAATG	109
	5	CATTCTCTGATTTCTCTTTTACC	GCTGGTTGTGACCACGAAAACG	195
	6	TAGGATGCACATGTCGTTTTCGT	TGCTGTGATTACAAATTGTGCCGGTA	189
Proximal Promoter	1	GATTGAGTTGTTTATGATAC	CTCTTTGCTGGGCTATGTG	248
	2	GCCCTGCCTCCTTCTCTAGC	TCTGGGATGAGAGCCATCAC	170
	3	CACAGAGCTGAAAGGAAGAC	ACGCCCGGCCTGAACATC	235
	4	GGTGCTCCTCTATCTGT	GGCAGTCCACTTGCCTTA	182

Element	Amplicon	Forward Primer	Reverse Primer	Size (bps)
		CYP3A7		
XREM[2]	A	CCTGGAAAGTCACAGGATTTGG	TTATCTCAGTTTACAAACTGGAGTTTATG	177
	C	CAATGAAACTCATGTCCCAACTAAAG	TGATTTCAAGGGCACTGAGAGG	120
	E	CAGTGCCCTTGAAATCATGTCAG	CTTGTCAGAAGTCCAGCTTGTG	127
C/EBPβ[3]	F	CACCGTGTACAGTTGGAGAAGTG	GCTTCAGTCCCTGCAACTGTTC	140
	G	CAGGGACTGAAGCCAAGGAAG	CAGGAAATTGGTGAAGGAAATGAAGATTG	215
	I	CTTCACCAATTTCCTGTTTCATTAATTC	GAGCTCATGTTTCAGCAGAAAG	192
	J	GCCTCATATTCTTTGATTTCTCTTTTAC	AAATGCTACAGAGCTGGTTATGAC	212
Proximal Promoter	N	GCTCTGTCTGGCTGGGTATGAAAG	CCAAGGGTTCTGGGTTCTTATCAC	210
	L	GGACAGCCATAGAGACAAGAGGAGAGTTAATAG	CGTGCTCTGCCTGCAGTCGGAAG	224
	M	CTTCCGACTGCAGGCAGAG	CCAAGTTTGGGATGAGATCCATCACTAC	225

[1] Constitutive Liver Enhancer Module
[2] Xenobiotic Response Enhancer Module
[3] CCAAT-enhancer binding beta domain

Figure 1S: CYP3A4 activity in postnatal primary hepatocyte preparations. CYP3A4 activity was measured for 9/10 of the postnatal samples using a commercial cell-based assay (P450-Glo™ CYP3A4 Assay, Luciferin-IPA; Promega Corporation, Madison, WI, USA) with some modifications, as previously described (Gramignoli *et al.*, 2014). Results are expressed as Luminescent Counting Unit (LCU)/min and are normalized to a million viable cells. The horizontal bar depicts the mean activity determined in 75 different primary human hepatocyte preparations while the shaded area depicts one standard deviation from the mean (Gramignoli *et al.*, 2014). Pediatric (<18 yrs of age) (○) and adult (>18 yrs of age) (●) activities are shown and are labeled with the sample ID numbers (Table 2).