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Regulation of Hepatic Cytochrome P450 mRNA in Male Liver-specific PGC-1 α knockout Mice

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e main ndings of the present study are that the observed circadian regulation of Cyp mRNA content in the liver was in general not dependent on the presence of hepatic PGC-1α. However, hepatic PGC-1α had a regulatory e ect on the basal levels of Clock, Cyp2b10, Car and Pxr mRNA levels in the liver. e ZT-2 time-point used to be chosen in order to decrease the impact of adjustments in physical activity and feeding due to mild conditions. To verify, that the two chosen time-point are representative for the circadian rhythm of gene expression, we decided the mRNA content of Bmal1 and Clock as known markers of circadian rhythm. In accordance with previous studies, the mRNA content material of Bmal1 and Clock was lower at ZT-12 than at ZT-2. is con rms the circadian state of the mice used in the experiment.

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e present statement that Cyp2a4 mRNA used to be greater at ZT-12 than at ZT-2 is in accordance with previous outcomes reporting Cyp2a as properly as Cyp2b's to be di erentially expressed at a diurnal rhythm. In the study by it was demonstrated that the circadian

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expression of selected Cyps in the liver and provides some e ects on the circadian regulation of Cyps in the liver. Together this suggests that PGC-1α in uences the basal hepatic capacity for detoxi cation and contributes in regulating the circadian variation in detoxi cation capacity.

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