PRIMACYT
Cell Culture Technology

Beagle Hepatocytes

Cell specification

The liver fulfills many vital processes in mammals. It is the central organ of energy metabolism (glycolysis, gluconeogenesis, lipid metabolism, amino acid metabolism, and ureagenesis), responsible for the maintenance of the blood sugar level and the synthesis of plasma proteins under physiological and patho-physiological conditions. Hepatocytes are the most prominent cells within the liver. Hepatocytes eliminate toxic substances from the blood. In this biotransformation process transporter proteins (influx and efflux transporter), phase I reactions (cytochrome P450 proteins), phase II reactions (mainly glucuronidation and sulfatation) play a central role. Primary hepatocytes are perfectly suited for *in vitro* metabolism and toxicity / detoxification studies prior to preclinical or clinical tests. Propagation of hepatocytes for cell transplantation, three dimensional culture systems and culture in bio-artificial liver support devices is now under investigation.

Dog hepatocytes are isolated from livers obtained from male or female Beagles and are available fresh as suspensions or in various culture formats (6, 12, 24 and 96well). Special configurations are available on request. Donor demographics stating vaccination status and health status of the animals are available for each animal.

Recommended medium and culture conditions

It is recommended to culture Beagle hepatocytes on collagen coated culture plates in HHMM (Human Hepatocyte Maintenance Medium), a serum-free culture medium containing Hepatocyte Growth Factor and Epidermal Growth Factor. Hepatocyte specific morphology and functions like albumin and urea synthesis and cytochrome P450 protein activities are maintained and/or remain inducible under these culture conditions (Fig. 1 and 2).

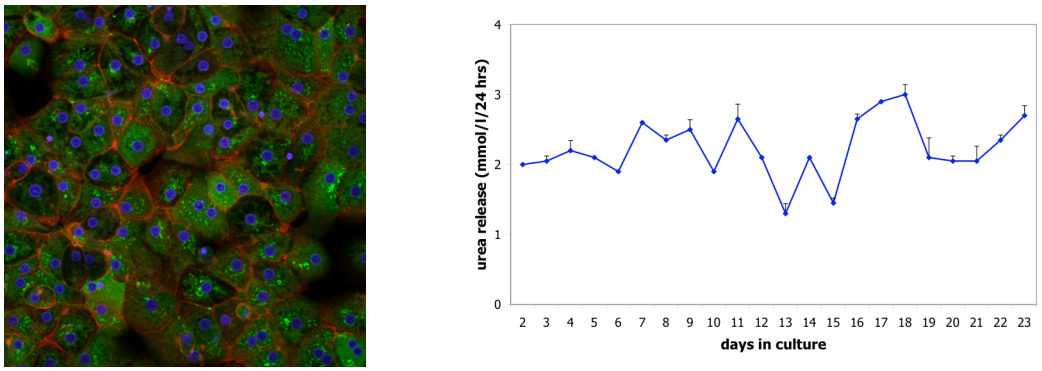

Fig 1: Beagle hepatocytes at day 1 of culture stained with goat anti dog albumin (green fluorescence, left panel) and urea release (right panel) from day 2 to 23 in dog hepatocytes cultured with HHMM.

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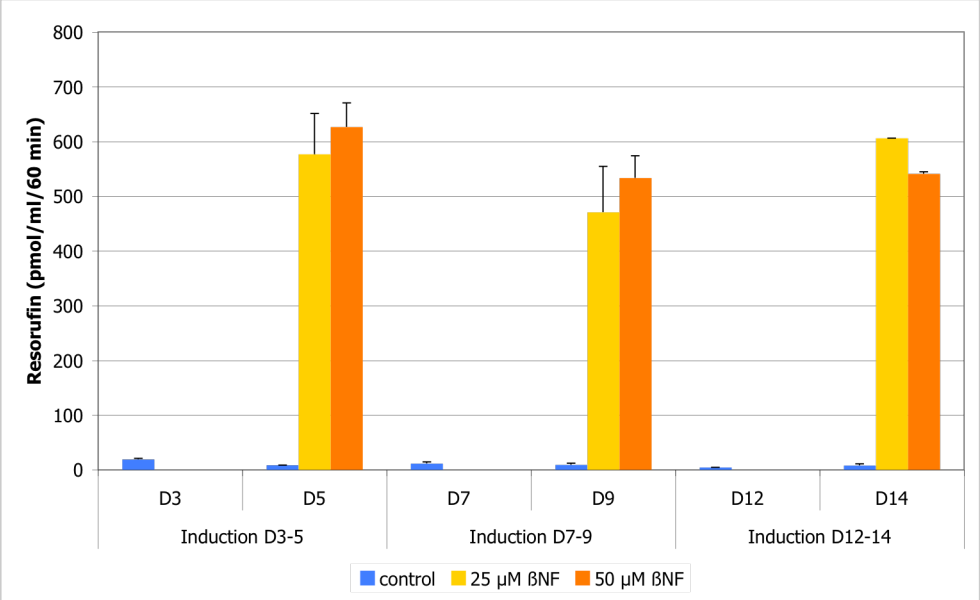

Fig 2: Induction of Ethoxyresorufin-O-deethylase (EROD) activity by ß-Naphthoflavone (ß-NF) in Beagle hepatocytes cultured with HHMM. Control = hepatocytes cultured for 48 hours in the absence of ß-NF. 25 µM ß-NF = hepatocytes cultured for 48 hours in the presence of 25 µM ß-NF. 50 µM ß-NF = hepatocytes cultured for 48 hours in the presence of 50 µM ß-NF.

Only for research purposes. Not for use in human diagnostics or therapeutics.

Biohazard warning: Tissue fractions such as hepatocytes should be considered as potentially biohazardous, and should be treated as biohazards in the laboratory.

For availability: Please see the hepatocyte isolation calendar on our website at www.primacyt.com for scheduled isolations.

For additional information of for placing an order please contact:

Phone: +49-(0)-385-3993-600
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Recommended products for culture of Beagle hepatocytes:

HPM-500	Hepatocyte Plating Medium
HHMM-500	Human Hepatocytes Maintenance Medium
CCP-xx	Collagen Coated Cell Culture Plates
RTC-100	Rat Tail Collagen