PRODUCT SPECIFICATIONS

UNDIFFERENTIATED HEPARG® CELLS CRYOPRESERVED

CATALOG NUMBER: HPR101

For in vitro and research use only

For more information, visit

www.HepaRG.com

Headquarters: Parc d'Affaires de la Bretèche, Bât. A4 - 35760 Saint Grégoire, France ● Tél. +33 (0)2 99 14 36 14 ● customersinquiries@biopredic.com
S.A.R.L. au capital de 98 500 euros ● R.C.S. Rennes B - SIRET 391 701 232 00012 ● APE 332B ● VAT FR 21 391 701 232
America Offices: 5801 West 129th Street #101 - Overland Park, KS 66209-3605 ● Phone: 913-851-1588 ● david.steen@biopredic.com

1. PRODUCT DESCRIPTION

Species	Human	
Origin	Liver tumor of a patient suffering from hepatocarcinoma and hepatitis C infection	
Safety data	Absence of hepatitis B, hepatitis C and HIV1 viruses checked by PCR on the cell suspension. *Caution: although controls are performed, human material has to be considered as potentially dangerous. Take maximum care in order to protect yourself and your colleagues*.	
Biosafety level	2	
Description	HepaRG® cells are human hepatic progenitor cells able to give rise to adult fully differentiated hepatocytes in appropriate culture conditions. HepaRG® cells have the unique properties of maintaining significant levels of hepatocyte functions, of being CYP450 inducible and supporting the complete replicative cycle of HBV. Catalog number HPR101 corresponds to a frozen vial of undifferentiated HepaRG® cells at passage P12**. Available only after a license agreement made with Biopredic International (for commercial companies) or under a MTA made with Inserm (for non-profit organisations).** Gripon P. *et al. Proc. Natl. Acad. Sci. 99, 15655-15660, 2002.*	
Packaging	0.5 mL vial with at least 1 x 10^6 viable cells	
CYP genotyping data	Obtained in collaboration with N. Picard at Limoges hospital (France) using a validated TaqMan allelic discrimination assay (ABI PRISM 7000 Sequence Detection System, Applied-Biosystems).	
SNPs description SNPs: Single Nucleotide Polymorphisms wt: wild- type mut: mutation **: wt=G T=minor allele in Caucasians	**CYP2D6**	
	*2 (2850C>T)	*2/wt
	*3 (2549delA)	wt/wt
	*4 (1846G>A)	wt/wt
	*7 (2935A>C)	wt/wt
	*10 (100C>T)	wt/wt
	CYP3A4	
	*1B (392G>A)	wt/wt
	OATP1B1 (=OATP2)	
	*5 (521T>C)	wt/*5
	OATP1B3 (=OATP8)	
	334T>G	wt/wt**
	MRP2	
	-24C>T	wt/wt
	1249G>A	wt/mut
	3972C>T	wt/mut

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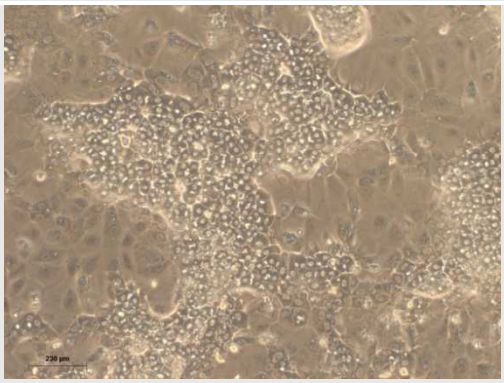
2. CHARACTERIZATION OF PRODUCT

Cell controls

Criteria	Method	Specification
Number of viable cells per vial	Microscopic observation	≥ 1 x 10^6
Post-thaw viability *	Trypan blue exclusion test	≥ 80 %
Cell morphology	Microscopic observation at passage n°14 after 2 weeks in the HepaRG® Growth Medium using ADD710, and 2 weeks in the HepaRG® Differentiation Medium using ADD720. 50 % of typical hepatocyte-like cells are organized in well-delineated clusters with bright canaliculi-like structures.	 **X 100**- August 07, 2014
Mycoplasma detection	Biochemical test	Negative
Microbial sterility	Under standard use conditions	No microbial growth detectable

***** *: After thawing, undifferentiated HepaRG® viability is determined by Trypan blue (0.05% in PBS) exclusion test at 10 min post-thaw.*

Vmax value of Phase I dependent activities (nmole/h/mg proteins)

Activity	Enzyme	Method
Phenacetin O-deethylase activity	CYP1A2	After 2 weeks in the HepaRG® Growth Medium using ADD710, and 2 weeks in the HepaRG® Differentiation Medium using ADD720, cells were incubated for 1 hour at 37°C in MEM medium with the following test substrates: - phenacetin (200µM), - midazolam (50µM), - bupropion (100µM), - dextrometorphan (100µM). Metabolites formed were measured by LC-MS/MS.
Midazolam 1' hydroxylase activity	CYP3A4/5	
Bupropion hydroxylase activity	CYP2B6	
Dextrometorphan O-demethylase activity	CYP2D6	

Characterization of phase II enzymes (nmole/h/mg proteins)

Activity	Enzyme	Method
Paracetamol glucuronidation	UGT1A1 UGT1A4 UGT1A6	After 2 weeks in the HepaRG® Growth Medium using ADD710, and 2 weeks in the HepaRG® Differentiation Medium using ADD720, cells were incubated for 5 hours at +37°C in MEM medium with 1mM paracetamol. Metabolites formed were measured by LC-MS/MS.
Paracetamol sulfation	SULT1A1 SULT1A3/4 SULT2A1	

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3. CONDITIONS OF STORAGE AND DELIVERY

STABILITY, STORAGE, DELIVERY	
Stability and Storage	5 years in liquid nitrogen
Delivery	In dry ice
Use	Follow instruction manual for HepaRG® cell line culture.

4. COMPANION PRODUCTS

CULTURE MEDIA*	
Denomination	**Catalog number**
HepaRG® Growth Medium supplement with antibiotics, to be combined with 500 mL of Basal medium	ADD710
HepaRG® Differentiation Medium supplement with antibiotics, to be combined with 500 mL of Basal medium	ADD720
For details on preparation of culture media, follow instruction manual for HepaRG® cell line culture	

5. OTHER OFFERING OF THE HEPARG® CELLS

Denomination	Catalog number
HepaRG® differentiated cells, cryopreserved after differentiation using a proprietary process developed by Biopredic International.	HPR116
HepaRG® differentiated cells, cryopreserved, using a proprietary freezing process developed by Biopredic International that allows direct thawing and seeding of the differentiated cells without the need for post-thaw washing, centrifugation and counting steps.	HPR116NS
HepaRG® undifferentiated cells, cryopreserved with a sufficient quantity of culture medium for production of 50 plates within a 6 month period of time.	KIT901

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