SYNBIOS® EMBRYO CULTURE MEDIA



Gamete and Embryo Culture, Handling And Cryopreservation Media

SAFE
ADVANCED
ONLY SYNTHETIC MEDIA
CULTURALLY PERMISSIBLE
LOW COST OF PRODUCTION
LOGISTICALLY EFFICACIOUS

BACKGROUND / HISTORY





- Media Products Invented & Owned by Jaffar Ali, PhD
- Licensed to Cellcura ASA of Norway in 2005
- Branded "Cellcura" (Trade Marked) by Cellcura ASA
- License Agreement Terminated in 2014 by Jaffar Ali
- Products Re- Branded "SYNBIOS®" by Jaffar Ali, 2015
- Products "SYNBIOS®" to Re-Launch in late 2017 or 2018
- SYNBIOS Seeks Investments from Interested Parties
- SYNBIOS Invites Applications for Distributorships
- Investors/Distributors please email:
- androcryogenics@gmail.com
- ANDROCRYOGENICS



APPLICATION AND MARKET VALUE

- Human Infertility (Assisted Reproduction) Treatment-1 in 6 couples
 - valued at US\$ 22.5 billion 2015; est US\$31Billion by 2023
- Human Embryo Culture Media
 - valued at US\$1140 million in 2013, growth at 13% per annum
- Meat and dairy production
 - Milk >US\$328 billion in 2013
 - Meat >US\$807 billion exported by USA alone in 2014
- ■Vaccine production US\$ 52 Billion in year 2016
- ■Stem cell therapy US\$10.7 Billion in 2017
- Organ transplantation US\$35.46 Million/year (USA only)



WHAT IS UNIQUE ABOUT SYNBIOS MEDIA?

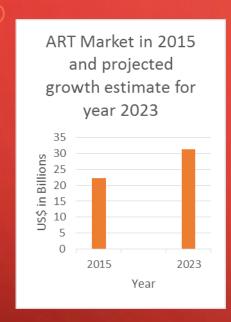
- ONLY EMBRYO CULTURE MEDIA NOT SUPPLEMENTED WITH DONOR SERUM ALBUMIN
- SYNTHETIC PROTEIN-FREE embryo/cell culture medium
- SYNBIOS NOT HAZARDOUS
- SYNBIOS MEDIA EQUALLY EFFICACIOUS AS OTHER MEDIA
- LESS/NO RISK OF DISEASE TRANSMISSION Disease transmission eliminated
- LESS/NO RISK OF BIOCHEMICAL TOXICITY / Lower Endotoxins
- LESS/NO RISK OF CROSSOVER LINEAGE of progeny not affected
- LESS/NO BATCH VARIATION; quality of embryos remains constant
- CHEAPER BY 30% TO MANUFACTURE
- LONGER STABILITY AND SHELF LIFE only media that can be frozen-stored 2yrs vs 6-12weeks
- CULTURALLY PERMISSIBLE

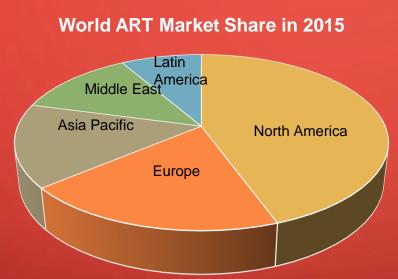
(b'coz only media that does not contain donor serum proteins and any protein)

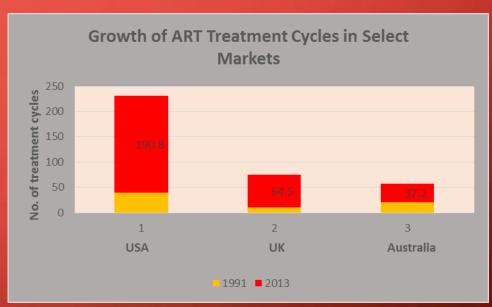
- o ISLAM,
- CASTE HINDUISM.
- o JUDAISM.
- O CHRISTIAN SECTS (JEHOVAH WITNESS)
- LOWER REGULATORY PROFILE
- 20 years of SYSTEMATIC RESEARCH 1985-2005 to develop the SYNBIOS Products



THE WORLD IVF MARKET SHARE



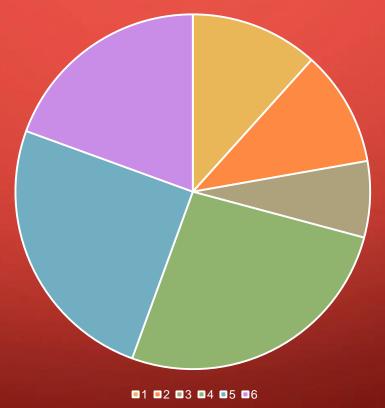






WORLD EMBRYO CULTURE MEDIA MANUFACTURERS VALUED AT US\$1140 MILLION IN 2013

Current Embryo Culture Media Manufactures and their Market Share





EFFICACY OF SYNBIOS MEDIUM

Table 10: Summary of clinical pregnancies from day 2 embryos generated in the protein-free medium (Age factor)

CPR in women 39 years and below	54.7% (52/95)
CPR in women 40yrs and above	15.8% (3/19)
CPR Overall (all age groups)	48.2% (55/114)

(CPR = Clinical Pregnancy Rate = +ve Sac & FHB)



The protein-free medium appears to be similar if not better than media containing donor proteins.

EFFICACY OF SYNTHETIC IUI MEDIUM: INDEPENDENT EVALUATION: IUI MULTI-CENTER TRIAL (2012/3)

OUTCOME:
AN ASTONISHING 29.5% CLINICAL PREGNANCY RATE AS OPPOSED TO 13% USUALLY
REPORTED FOR IUI

Several IUI clinics enrolled over 100 non-selected patients in an efficacy study on PF Protein Free IUI Medium and the results are presented in the table below:

Age No of Patients	20-25 10	26-30 33	31-34 48	35-40 9	Overall n=100
Natural Cycle	2	2	1	0	5
No of Pregnancy	0	1	0	0	1
% Pregnancy	0	50	0	0	20
Singleton	0	0	0	0	0?
Twins	0	0	0	0	0?
Stimulate Cycles	8	31	47	9	95
No of Pregnancies	3	6	17	2	28
% Pregnancy	37,5	19,4	36,2	22,2	29.5
Singleton	3	3	16	2	24
Twins	0	3	1	0	4



Source: Cellcura ASA, Norway

EXCELLENT TREATMENT OUTCOME WITH SYNBIOS MEDIA

Outcome:

Clinical Pregnancy with fresh medium

= 54.7%

Source: Ali et al., 2004

Table 3. Quality of day 2 human sibling embryos generated by conventional IVF or ICSI in protein-free (ART-7b) medium

Medium	Fertilization %	Arrested at 1-cell stage	Blastomere Mean (±SD)	Grade Mean (±SD)	%≥4 Blastomeres	%≥3 grade
ART-7b (Protein-free)	80.4 (320/398)	2.8	3.7 (1.1)	3.0 (0.7)	65.0	68.0
Medi-Cult (+ protein)	73.1 (293/401)	7.0	3.4 (1.0)	2.8 (0.8)	55.4	58.4
Significance	p=0.0178	p=0.0092	p=0.0011	p=0.0007	p=0.0219	p=0.0205

[Embryo grade: 4=excellent; 3=good; 2= fair; 1=poor]

Table 4. Quality of day 2 human sibling embryos generated by IVF or ICSI in frozen-thawed PFM and fresh medium containing protein.

Medium	Fertilization %	Arrested at 1-cell stage	Blastomere Mean (±SD)	Grade Mean (±SD)	%≥4 Blastomeres	%≥3 grade
ART-7b (Protein-free)	78.6 (81/103)	2.5	3.8 (1.2)	3.1 (0.9)	71.4	68.4
Medi-Cult (+ protein)	75.3 (64/85)	8.5	3.7 (1.1)	2.6 (0.8)	70.9	50.8
Significance	p=0.7119	p=0.3015	p=0.1652	p=0.2325	p=1.000	p=0.0506

[Embryo grade: 4=excellent; 3=good; 2= fair; 1=poor]

Table 6. Summary of clinical pregnancies from day 2 embryos generated in ART-7b protein-free medium

CPR in women 39 years and below (PFM)	54.7% (52/95)
CPR in women 40yrs and above (PFM)	15.8% (3/19)
CPR Overall (all age groups) (PFM)	48.2% (55/114)
CPR (PFM; pen & strep; all age groups)	50.6% (41/81)
CPR (PFM; gentamycin; all age groups)	42.4% (14/33)*
CPR (PFM; pen & strep; ≤ 39yrs)	55.1% (38/69)
CPR (PFM; gentamycin; ≤ 39yrs)	68.4% (13/19)*
CPR (frozen-thawed PFM)	52.9% (18/34)
CPR in women 39 years	63.2% (12/19)*
(PFM + protein with MM)	
CPR (all age groups; PFM + protein	57.1% (12/21)*
with MM)	
CPR in women 39 years (PFM + protein	60.5% (26/43)*
w/o MM)	
CPR (all age groups; PFM + protein w/o	54.2% (26/48)*
MM)	

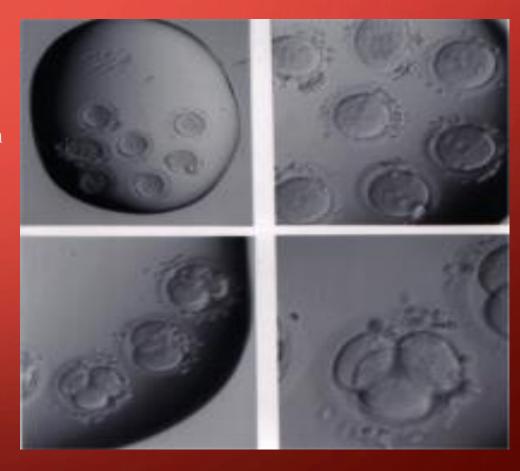
(CPR = Clinical Pregnancy Rate); (MM=Macromolecule)
Not significantly different from corresponding group



EFFICACY OF THE PROTEIN-FREE MEDIUM TESTIMONY: SHOWCASING ONE CASE TO INDICATE EFFICACY OF THE SYNBIOS MEDIUM

HANNAH'S BABIES (not real name)

- Retrieved 13 oocytes
- 6 of 7 eggs fertilized by ICSI in SYNBIOS PF medium
- 5 of 6 eggs fertilized by IVF in SYNBIOS PF medium -indicating fertilization by conventional IVF not affected although medium devoid of protein
- 3 day-2 ICSI (4/5-cell) embryos were transferred
- Patient tested positive (β-hCG blood test)
- 3 sacs seen with +ve Fetal Heart Beat
- 3 boys delivered



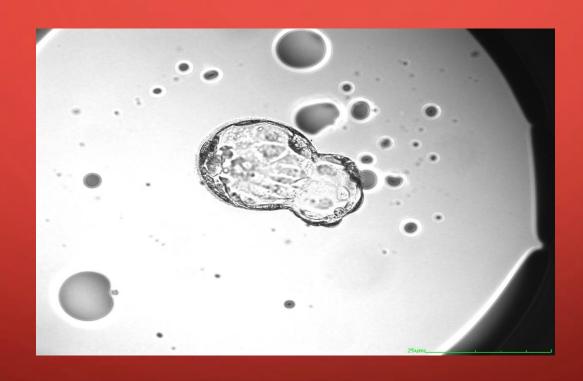


VS14 Vitirification solution (the early/pioneering work on vitrification - embryo cryopreservation medium developed by Ali and Shelton, 1993) was successfully utilized by workers worldwide to cryopreserve in human/animal ART with live births

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IT IS POSSIBLE TO CRYOPRESERVE EMBRYOS USING PROTEIN-FREE VITRIFICATION SOLUTION VS34 – A MODIFICATION OF VS14







EFFICACIOUS PROTEIN-FREE SPERM FREEZING

Total Sperm count 440M, total motile count 229M (52.0%); Post-thaw total motile count was 132M (30.0%; n=8; p=0.3886; NS)

SYNTHETIC SPERM CRYO MEDIUM			CONVENTIONAL PROTEIN- SPERM CRYO MEDIUM					
	Before Freezing Mean+SD Range	After Freezing Mean+SD Range			Before freezing		After freezing	
Total Count	55.0±33.058	41.5±24.785			Mean (SD)	Range	Mieam (SD)	Range
				Volume (ml)	2.8 ± 1.5	0.5 - 7.0	-	-
Motile Count	28.625±19.856	16.625±10.542	SIGNIFICANT	Count (106/ml)	39 ± 29	0.1 - 100	18 ± 13	4.5 - 40.0
				Motility (%)	45 ± 11	0 - 60	23 ± 12	0 - 40.0
Motile %	52%	40%	SIGNIFICANT	Morphology (% normal)	5.8 ± 5.2	1.0 - 18	-	-
Ali,2011.				(% normal)				
Ali, 2015				Menkveld 2012, Focus o	on Reprod			

Proof of principle

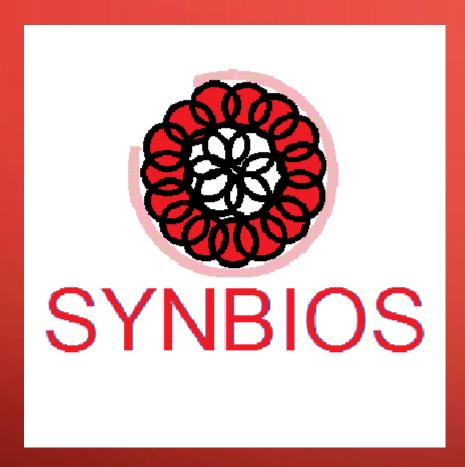
Early 2010 TESE performed. Very few sluggishly motile and immotile sperm were recovered. With the sperm recovered 12 of 13 of his wife's eggs were (92.3%) fertilized. She became pregnant but lost the pregnancy.

Early 2011 after one year and two months the patient came back for ART treatment. The frozen testicular sperm was thawed and used to fertilize all 10 eggs (100%). Pregnant, the pregnancy was on-going.

This pregnancy achieved following the injection of frozen-thawed sperm that was cryopreserved using the protein-free sperm cryoprotectant solution – "SPERM PF-CRYO". The sperm was in cold storage for 14 months. This is proof of principle for the PF sperm cryopreservation solution.

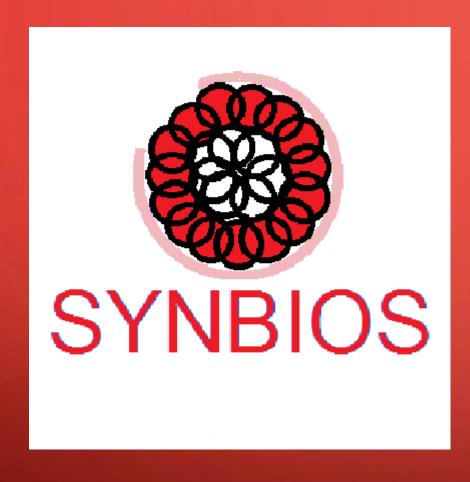


MARGIN



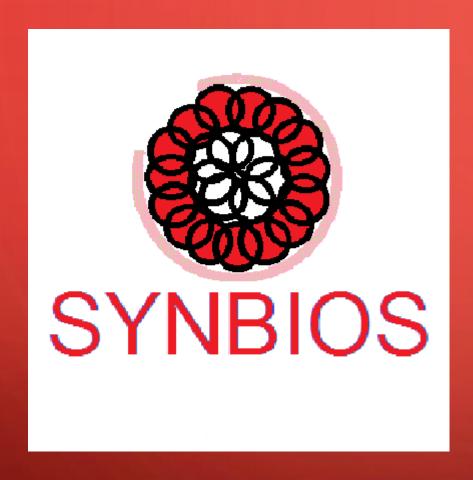
- Margin >100%
- High cost of serum proteins
 pushes up cost for conventional
 medium but NOT synthetic
 medium like SYNBIOS which is
 devoid of serum proteins.
- Enormous profit margin

DISTRIBUTORS WANTED



- Distributors wanted from all over the globe.
- Interested Parties please email: androcryogenics@gmail.
 com
- ANDROCRYOGENICS

INVESTORS WANTED



- We are keep to partner with potential investors to take this product to the global market.
- Interested Parties please email: androcryogenics@gmail.
 com
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ACCOLADES/HONOURS

- Royan Award, Iran, 2000
- His Highness Sh Hamdan AlMaktoum Award 2002 Dubai
- Citation, Hon Minister, Min of Public Health, Qatar, 2002
- ITEX2013 BEST INVENTION AWARD; (International)
- i-INOVA2014 IBN SINA AWARD;
- BioMalaysia Gold Awards, 2012
- MTE2013; Gold Award,
- ITEX 2013; Gold Award
- i-INOVA2014; Gold Award
- Other awards:
- AIN2013 TOP 10 Inventions of year 2013





IMPACT OF SYNBIOS

- SYNBIOS will be useful worldwide as it is anticipated to comply with regulations that limits use of serum proteins in some nations, it prevents disease transmission, batch variation and is the SAFEST MEDIA ON OFFER
- ME and Asian populations are anticipated to use the product as it is the only
 HALAL product which also safeguards the genetic constitution of the progeny in
 compliance with one of the five principles of the faith.
- Investors and distributors please email: androcryogenics@gmail.com
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THANK YOU

