

National Unified Service Number
010-58711655

YOCON 友康®

NK pure factor culture set

Applicable samples	Specification	Cat No.	Performance description	Expiry date
Umbilical cord blood	2 vials of NK cell serum free media (1 L) + NK cell induction factor kit (umbilical cord blood)	NC0102+AN0103.2	Cell count:4-5 billion, positive rate> 70%	12 month
Peripheral blood	2 vials of NK cell serum free media (1 L) + NK cell induction factor kit (peripheral blood)	NC0102+AN0102.2	Cell count: more than 5 billion; positive rate of normal sample >70%, positive rate of special samples >40%	12 month

YOCON 友康®
Yocon Biology (Beijing) Co., Ltd.

Umbilical Cord Blood NK Pure Factor Serum Free Media

- More stable performance
- Easier to operate
- Making the density-monitoring supplement process replaced



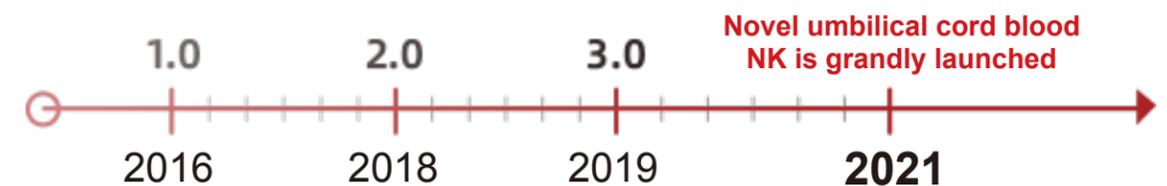
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Product Introduction

Natural killer cells (NK Cells) are major immune cells in the body and play a crucial role in anti-tumor and immune regulation. NK Cells are a hot research topic in the fields of cell therapy and immunology. However, since it is difficult to cultivate NK cells, it is difficult to achieve both "high purity" and "high cell count". Especially in terms of umbilical cord blood NK culture, there are many troubles such as blood sample level, red blood cell interference, and low cell count. Compared with peripheral blood NK, umbilical cord blood NK is more difficult to culture.

Yocon Biology's novel umbilical cord blood NK pure factor serum free culture set can make umbilical cord blood NK up to 4-5 billion cells in 16-18 days, with a positive rate of above 70%. The product includes a set of basal media and a set of induction factor kit, which provides an extremely simple operation scheme for NK cell culture. The newly upgraded umbilical cord blood NK culture process can achieve the propagandized performance just by controlling the seeding conditions of the initial umbilical cord blood PBMCs, and culturing cells according to the recommended supplement process.

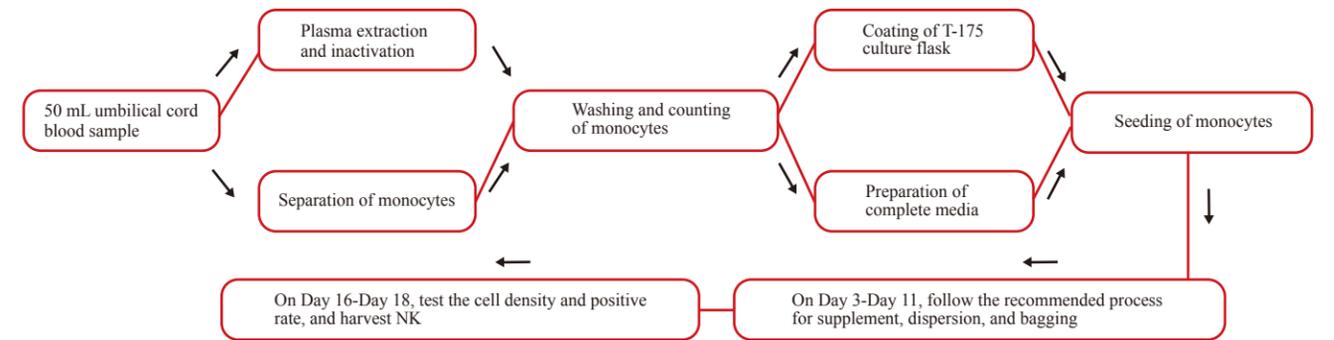
The complex culture method of monitoring cell density of NK is changed, thereby liberating the operator.

Specification

Nomenclature	Use	Specification	Storage temperature	Expiry date
NK cell serum free medium	NK cell in vitro culture	1000 mL/vial × 2	2-8°C	12 month
NK cells Induction factor kit (umbilical cord blood 2 L system)	YC00A: Coat culture flasks for use in initial culture	1 vial, 500 μL/vial	-20°C	12 month
	YC00B: Add in initial culture	1 vial, 500 μL/vial		
	YC00C: add in medium B	1 vial, 500 μL/vial		
	YC00D: add in medium B	1 vial, 500 μL/vial		
	YC00E: add in medium B	1 vial, 500 μL/vial		
	YC005: add to the medium for use, each/1L	2 vials		
	Gentamicin: add to the medium for use, 100 μL/1L	1 vial, 300 μL/vial		



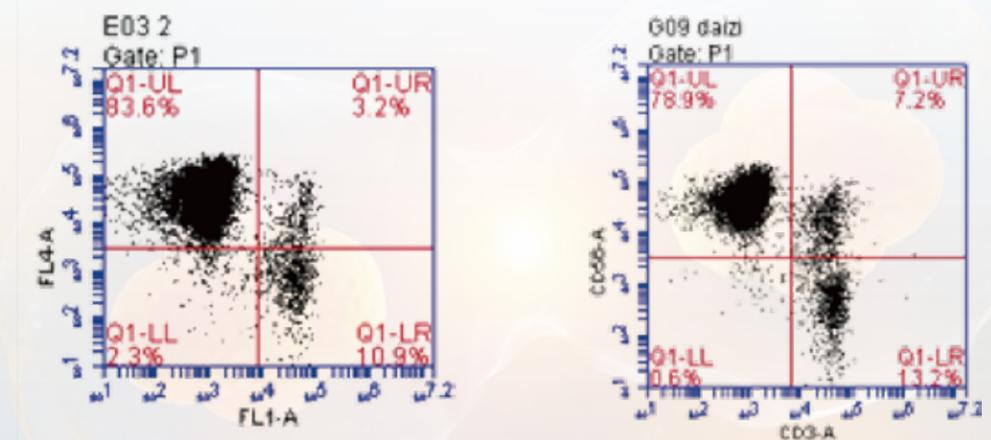
Culture process



Recommended supplement process

Reference supplement procedure						
Time	T175	Culture bag	Supplement volume	Total volume	Plasma ratio	Plasma volume
d0	50	0	50	50	10%	5
d3	150	0	100	150	5%	5
d5	150*2	0	150	300	1%	1.5
d7	50*2	600	400	700	1%	3
d9	50*2	1300	700	1400	1%	6
d11	100*2	1800	600	2000	0%	0

Flow cytometry

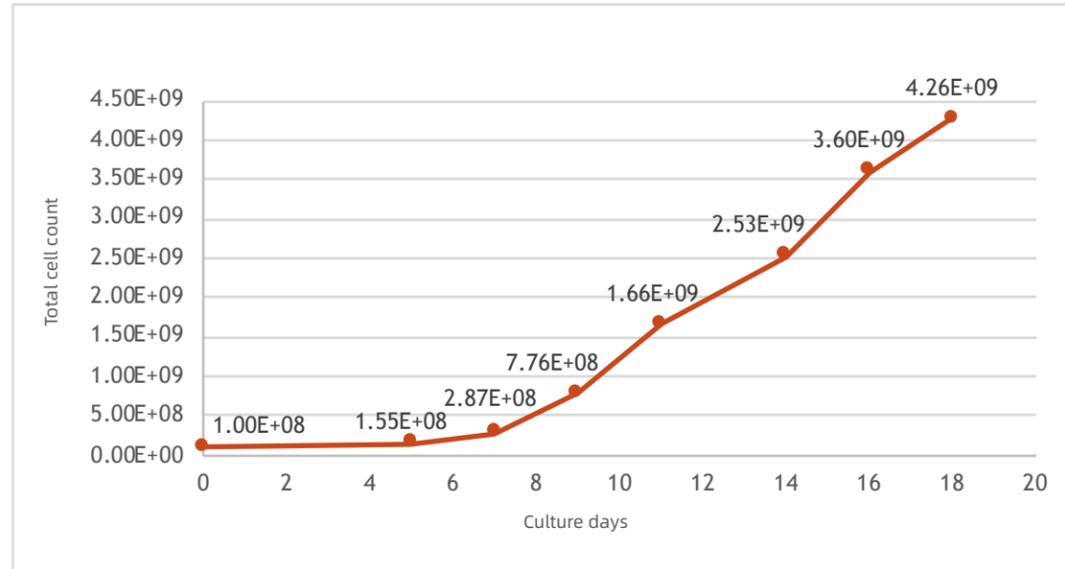


For the detailed culture process, please refer to the Instruction for Use of Yocon Umbilical Cord Blood NK Cell Serum free Culture Set.

Sample 1

NK cell count: 4.26 billion, positive rate: 79.9%

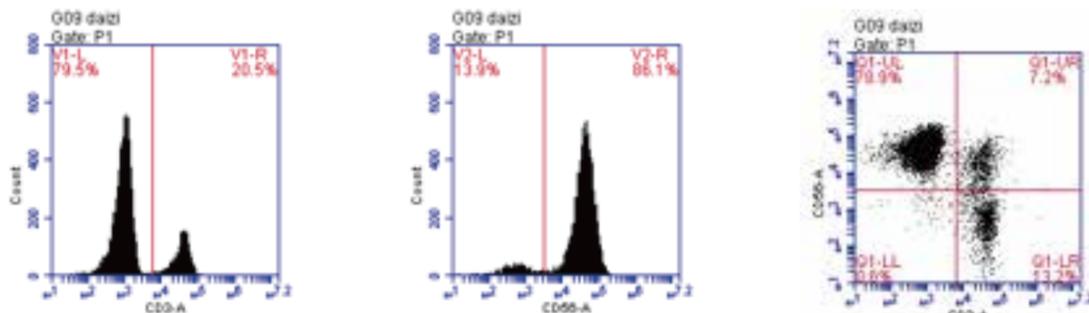
Cells growth curve



Supplement process

Handling time	T175 volume (mL)	Culture bag volume (mL)	Supplement volume (mL)	Total volume (mL)	Plasma ratio	Plasma volume (mL)
d0	50	0	0	50	10%	5
d3	150	0	100	150	5%	5
d5	150*2	0	150	300	1%	1.5
d7	50*2	600	400	700	1%	3
d9	100*2	1200	700	1400	1%	6
d11	200*2	1600	600	2000	0	0

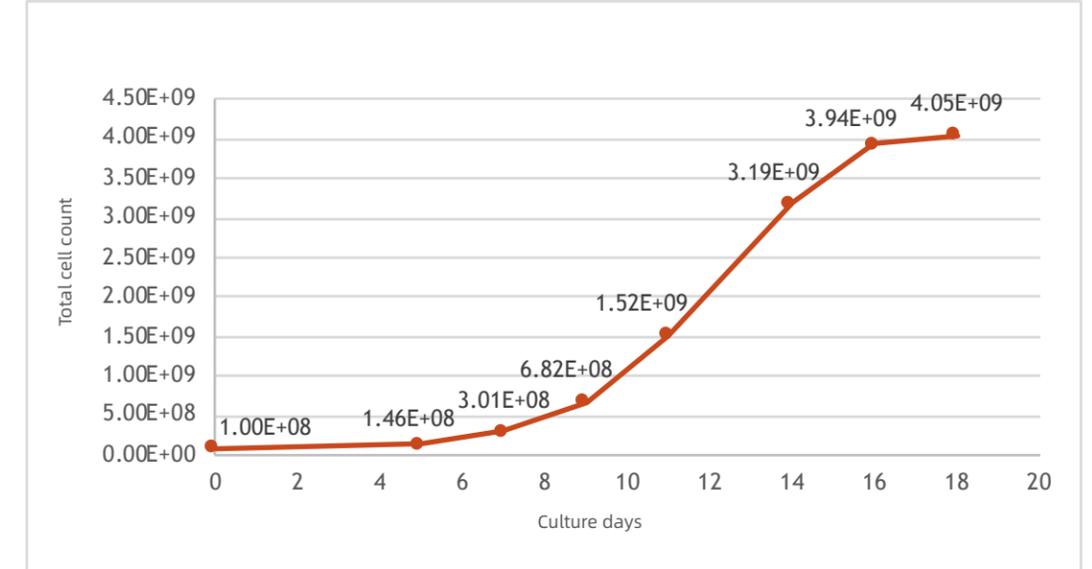
NK positive rate



Sample 2

NK cell count: 4.05 billion, positive rate: 83.6%

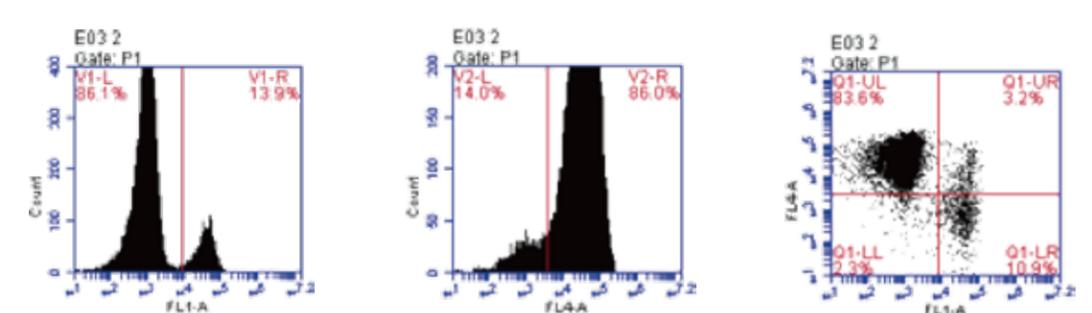
Cells growth curve



Supplement process

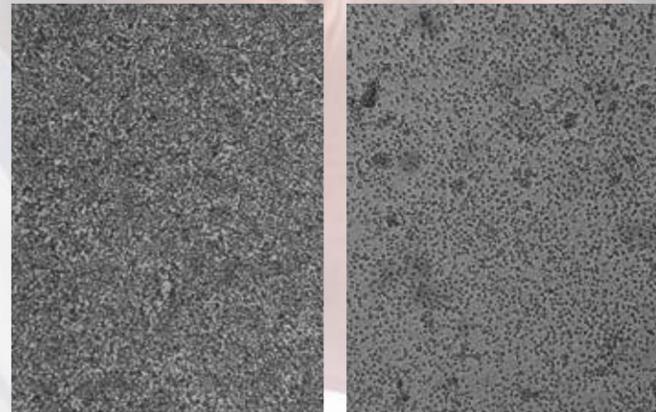
Handling time	T175 volume (mL)	Culture bag volume (mL)	Supplement volume (mL)	Total volume (mL)	Plasma ratio	Plasma volume (mL)
d0	50	0	0	50	10%	5
d3	150	0	100	150	5%	5
d5	150*2	0	150	300	1%	1.5
d7	50*2	600	400	700	1%	3
d9	100*2	1200	700	1400	1%	6
d11	200*2	1600	600	2000	0	0

NK positive rate



NK cells

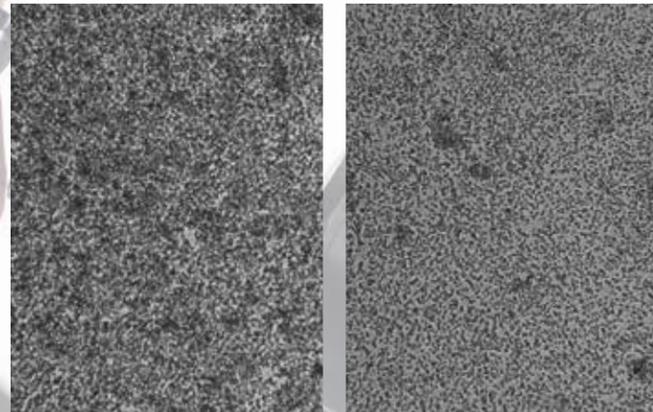
24 h after seeding



Sample 1

Sample 2

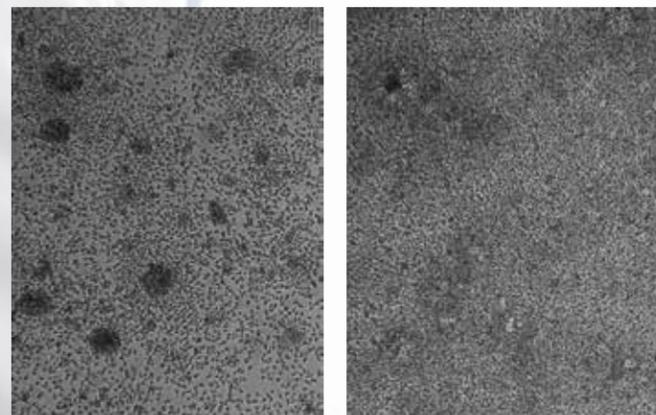
Day 3



Sample 1

Sample 2

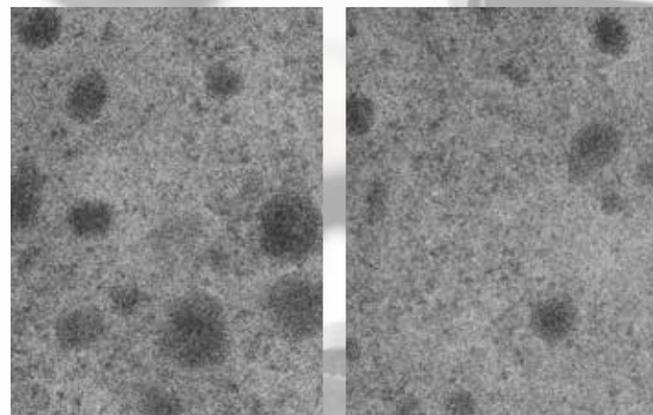
Day 5



Sample 1

Sample 2

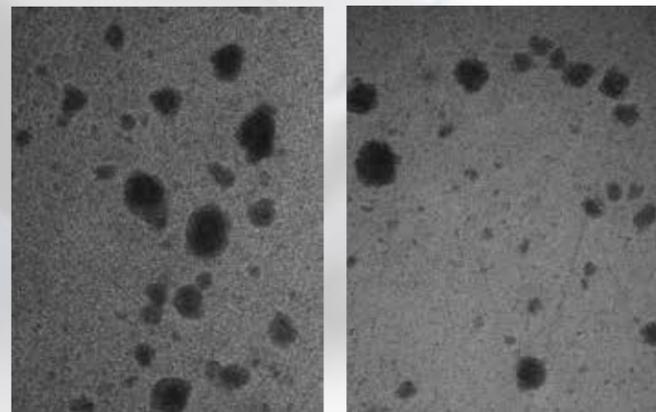
Day 7



Sample 1

Sample 2

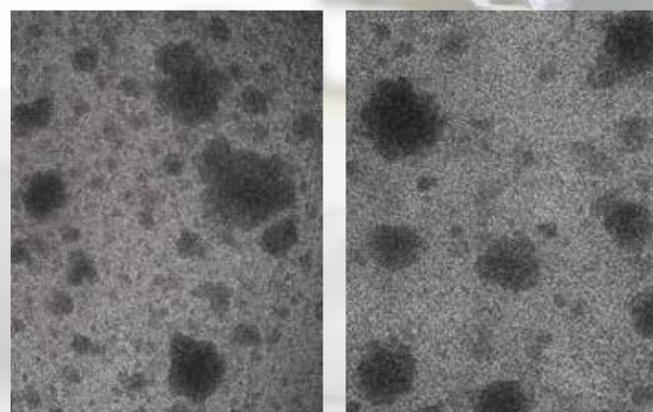
Day 9 (in the bag)



Sample 1

Sample 2

Day 12 (in the bag)



Sample 1

Sample 2



Introduction

Established in 2006, Yocon Biology is a leading enterprise in the domestic cell therapy serum free medium industry, dedicated to building a high-quality domestic serum free culture brand, and establishing a solid cornerstone for the cell therapy field from the origin. Yocon Biology has had 25 invention patents with independent intellectual property rights, 12 utility model patents, 1 Class II In Vitro Reagent Registration Certificate, and 12 Class I Medical Device Filing Certificates. Yocon Biology was certificated by the ISO9001 and ISO13485 quality management systems. Yocon Biology is a double-high-tech enterprise with the qualifications of Zhongguancun high-tech enterprise and national high-tech enterprise. It is headquartered in Yongfeng Industrial Base, Haidian District, Beijing, and has offices in Shanghai, Guangzhou, etc. The new R&D and production base in Miyun, Beijing is under construction, with a construction area of about 42,000 m², and is expected to be put into use in 2022. Then Yocon will provide more high-quality and innovative products for domestic and foreign customers, and create a new era in the field of cell therapy.

Hardware Conditions

Yocon Biology has the first fully automatic liquid culture medium filling production line in China, including 6 major subsystems such as pure water system, distilled water system, cooling water system, online steam sterilization system, liquid dispensing system, and filling system.

Yocon Biology is a Class 2 in vitro diagnostic reagent manufacturer, and meets GMP requirements.



The first fully automatic liquid culture medium filling line in China



Distilled water system
Ensure endotoxin below 0.015 EU/ml



Fully automatic dosing system
Batch output 1000 L



CIP&SIP
Ensure the sterility of the whole manufacturing process