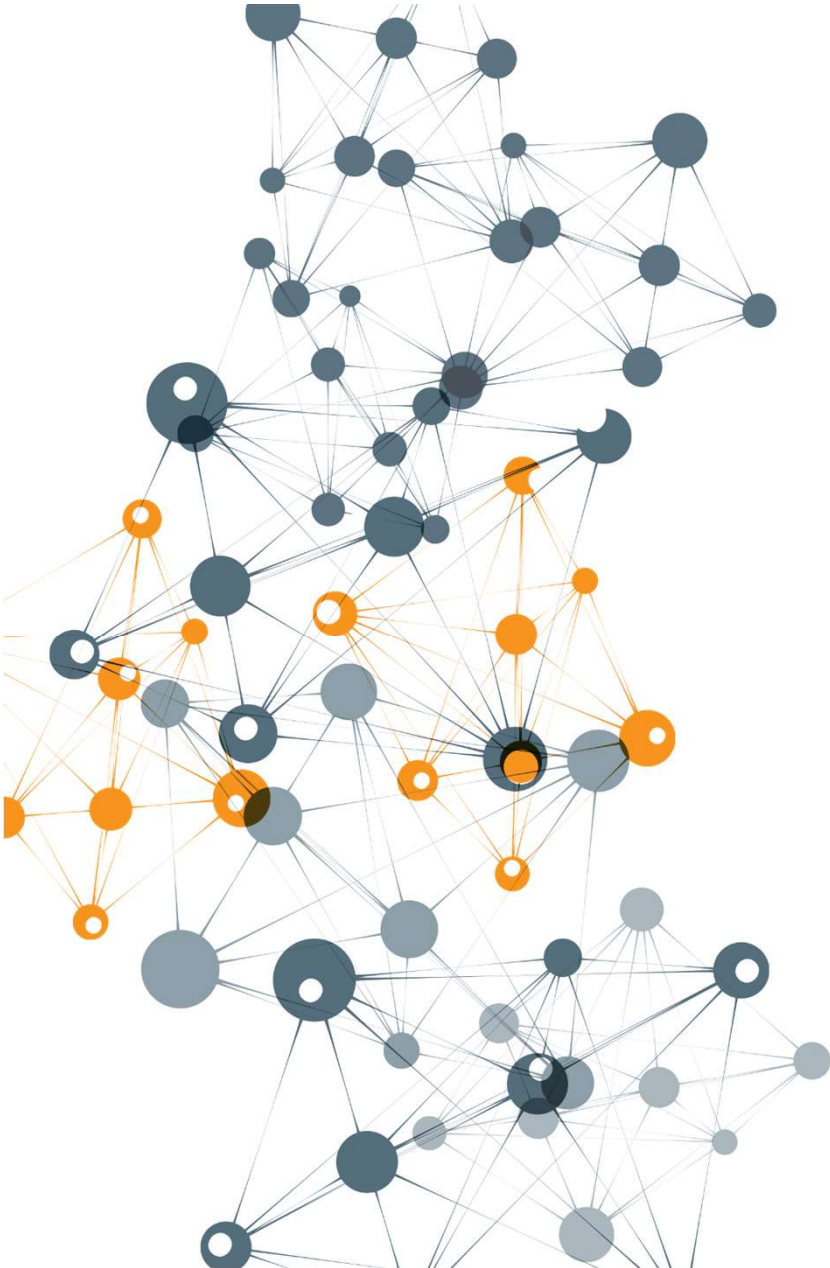


OCV WG



Vaccine for Infectious Diseases and Immuno-Oncology
Development & Manufacturing

2021 OCV Production Plan



Company Overview

Company Profile

Establishment	10 March 2010
Business Place	HQ: Seoul Facility - 2 Manufacturing sites in Chuncheon - R&D Center in Chuncheon
No. of Employee	Over 200
Market Cap	USD 55M Listed in KOSDAQ since Jan 2017
Business Area	- Vaccine Development, Manufacturing & Supply - CRMO(Contract R&D and Manufacturing Organization)

CEO Profile



Dr. YEONGOK BAIK

- Bachelor, Master in Veterinary Medicine, Seoul National Univ.
- Ph.D. in Life Science, Korea Univ.
- QA General Manager, CJ Corporation
- Director, Korea Institute of Industrial Technology

CEO Profile

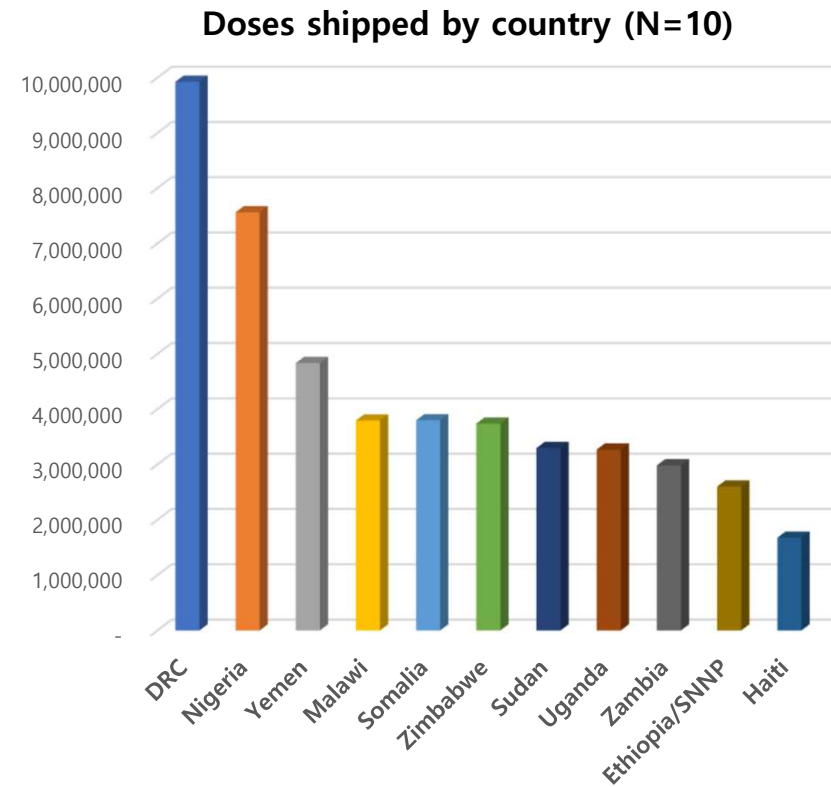
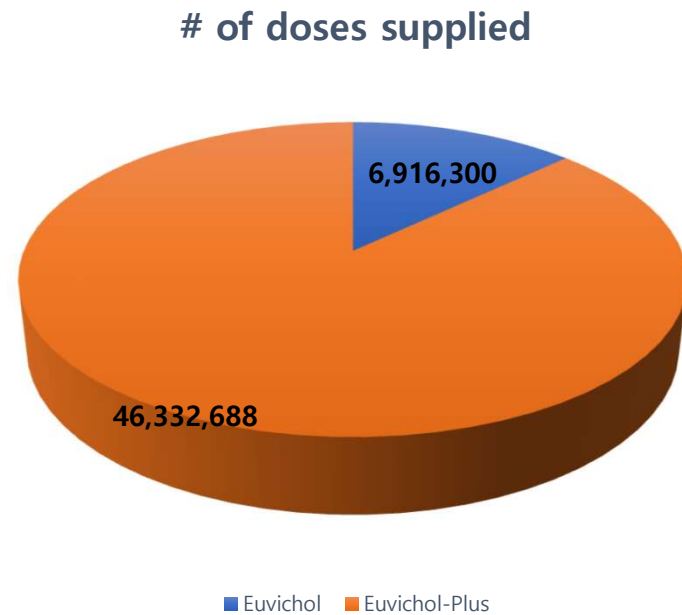


SEUKKEUN CHOI

- Bachelor in Microbiology, Seoul National Univ.
- Green Cross Corporation
- CJ Corporation
- General Manager, LG Life Sciences
- Director of Plant, Meditox

Euvichol-Plus Shipment History

EuBiologics has supplied about 53M doses of Euvichol and Euvichol-Plus to cholera endemic/outbreak countries through UNICEF.



OCV Production Capacity

EuBiologics is able to produce 29M doses of Euvichol-Plus in 2021, subject to the award by UNICEF.

2020 Production*

Production(Unit:Mil)	Dec('19)	Jan('20)	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Euvichol-Plus	6.85	1.76	1.42	1.94	0.18	-	-	-	-	1.42	1.60	0.35	-	8.68
Shipped quantity		0.01	1.86	0.75	-	-	2.26	-	0.01	1.04	0.01	5.05		10.99
Stockpile (Monthly)	6.85	8.60	8.16	9.35	9.52	9.52	7.26	7.26	7.25	7.64	9.23	4.53	4.53	

*Rolled over quantity of 6.85M doses excluded from total production in 2020

OCV Expansion

EuBiologics has been working on OCV facility expansion to double the production capacity, up to 50M doses. GMP production is expected in Oct 2022.



OCV Expansion Timeline (exp.)

No.	Process Breakdown	Start	Finish	Duration (Month)
1	Design	Nov '19	Dec '19	2M
2	Construction	Jul '20	Dec '20	6M
3	Equipment Purchase	Nov '19	Dec '20	14M
4	Qualification	Jan '21	Mar '21	3M
5	Process Validation	Apr '21	Aug '21	3M
6	Comparability Study	Jul '21	Sep '21	3M
7	Licensure by MFDS	Oct '21	Mar '22	6M
8	Variation Approval by WHO	Apr '22	Sep '22	6M
9	GMP Production	Oct '22		

Registration Status of Euvichol-Plus

No.	Country	Registration approved (Y/N)	Approval date	Remarks
1	Republic of Korea	Y	Mar 2017	Export only
2	WHO PQ	Y	Aug 2017	-
3	Zambia	Y	Feb 2020	
4	Caribbean Regulatory System (CARPHA/CRS)	Y	Apr 2018	Haiti included in CRS
5	Nepal	Y	May 2018	
6	Nigeria	Y	Jul 2018	
7	Malaysia	Y	Dec 2019	
8	Pakistan	N	-	Drug pricing registration ongoing
9	Uganda	N		Site inspection expected
10	Mozambique	Y	Sep 2019	
11	Myanmar	Y	Mar 2020	
12	Philippines	N	-	
13	DRC	N		Dossier submitted in Feb '18
14	India	N		Bridging study expected soon