

WHO Immunological Basis for Immunization Series

**Module 21: Rotavirus
Update 2019**

Immunization, Vaccines and Biologicals



**World Health
Organization**

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The immunological basis for immunization series: module 21: Rotavirus Vaccines (Immunological basis for immunization series; module 21)

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Contents

<i>Abbreviations and acronyms</i>	<i>v</i>
<i>Preface</i>	<i>vii</i>
<i>Acknowledgements</i>	<i>viii</i>
<i>Conflict of interest</i>	<i>ix</i>
1. Introduction	1
2. Rotavirus structure and genome organization	3
3. Classification methods for rotaviruses	7
4. Rotavirus epidemiology	9
4.1 Burden of disease	9
4.2 Rotavirus strain distribution.....	9
4.3 Seasonality of rotavirus disease	10
4.4 Age at infection.....	11
5. Rotavirus replication	12
6. Rotavirus pathogenesis	15
6.1 Clinical presentation.....	15
6.2 Extraintestinal infections	16
6.3 Pathophysiology and mechanisms of disease.....	17
7. Rotavirus immunity	19
7.1 Methods for detection of rotavirus	19
7.2 Rotavirus vaccines	19
8. References	35

Abbreviations and acronyms

BRV-PV	Bovine (UK) reassortant pentavalent vaccine
BRV-TV	Tetravalent bovine-human reassortant rotavirus vaccine
CD	Cluster of differentiation
CI	Confidence interval
CSF	Cerebrospinal fluid
DLP	Double-layered particle
dsRNA	Double-stranded RNA
eIF4G	Eukaryotic translation initiation factor 4 G
ELISA	Enzyme linked immunosorbent assays
EM	Electron microscopy
ENS	Enteric nervous system
ER	Endoplasmic reticulum
FUT2	Fucosyltransferase 2
G	Glycoprotein
HBGAs	Histo-blood group antigens
HSP	Heat shock protein
HT	Hydroxytryptamine
IFN- γ	Interferon gamma
Ig	Immunoglobulin
IL	Interleukin
JAMA	Junctional adhesion molecule A
LLR	Lanzhou lamb rotavirus vaccine
NCDV	Nebraska Calf Diarrhea Virus
NDP	Nucleoside-diphosphate
NEC	Necrotizing enterocolitis
NSP	Non-structural proteins
OPV	Oral poliovirus vaccine
P	Protease-sensitive
PABP	Poly(A)-binding protein
PAGE	Polyacrylamide gel electrophoresis
PFU	Plaque forming units

RER	Rough endoplasmic reticulum
RNA	Ribonucleic acid
RRV	Rhesus rotavirus vaccine
RRV-TV	Rhesus–human reassortant tetravalent vaccine
RTPase	RNA triphosphatase
RT-PCR	Reverse transcription polymerase chain reaction
SCID	Severe combined immunodeficiency
SG	Subgroups
SS	single-stranded
TGF	Tumour growth factor
TLP	Triple-layered particle
VP	Viral proteins
WC3	Wistar Calf 3

Preface

This module is part of the WHO series The immunological basis for immunization, which was initially developed in 1993 as a set of eight modules, comprising one module on general immunology and seven modules each devoted to one of the vaccines recommended for the Expanded Programme on Immunization – i.e. vaccines against diphtheria, measles, pertussis, polio, tetanus, tuberculosis and yellow fever. Since then, this series has been updated and extended to include other vaccines of international importance. The main purpose of the modules is to provide national immunization managers and vaccination professionals with an overview of the scientific basis of vaccination against a range of important infectious diseases. The modules developed since 1993 continue to be vaccine-specific, reflecting the biological differences in immune responses to the individual pathogens and the differing strategies employed to create the best possible level of protection that can be provided by vaccination. The modules also serve as a record of the immunological basis for the WHO recommendations on vaccine use, as published in the WHO vaccine position papers¹.

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