

Acquisitions Editor: Sonya Seigaruse
Managing Editor: Nancy Winter
Developmental Editor: Dvora Konstant
Marketing Manager: Kimberly Schonberger
Project Manager: Nicole Walz
Manufacturing Coordinator: Kathy Brown
Design Coordinator: Stephen Druding
Cover Designer: Joseph DePinho
Production Services: TechBooks, Inc.
Printer: R. R. Donnelley, Crawfordsville

© 2007 by LIPPINCOTT WILLIAMS & WILKINS, a Wolters Kluwer business
© 2000 by LIPPINCOTT WILLIAMS & WILKINS, © 1996, 1992 and 1986 by
Jacques Wallach, MD, © 1978, 1974 and 1970 by Little, Brown and Company
530 Walnut Street
Philadelphia, PA 19106

All rights reserved. This book is protected by copyright. No part of this book may be reproduced in any form or by any means, including photocopying, or utilized by any information storage and retrieval system without written permission from the copyright owner, except for brief quotations embodied in critical articles and reviews. Materials appearing in this book prepared by individuals as part of their official duties as U.S. government employees are not covered by the above-mentioned copyright.

Printed in the United States of America

Library of Congress Cataloging-in-Publication Data

Wallach, Jacques B. (Jacques Burton), 1926-
Interpretation of diagnostic tests / Jacques Wallach.—8th ed.
p. ; cm.
Includes bibliographical references and index.
ISBN-13: 978-0-7817-3055-6
ISBN-10: 0-7817-3055-4
1. Diagnosis, Laboratory—Handbooks, manuals, etc. I. Title.
[DNLM: 1. Laboratory Techniques and Procedures. 2. Diagnostic
Techniques and Procedures. QY 25 W195i 2007]
RB38.2.W35 2007
616.0756—dc22 2006033587

Care has been taken to confirm the accuracy of the information presented and to describe generally accepted practices. However, the authors, editors, and publisher are not responsible for errors or omissions or for any consequences from application of the information in this book and make no warranty, expressed or implied, with respect to the currency, completeness, or accuracy of the contents of the publication. Application of this information in a particular situation remains the professional responsibility of the practitioner.

The author, editors, and publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accordance with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly

Methemoglobin (WB)	<1% of total Hb	
Osmotic fragility of RBCs	Increased if hemolysis occurs in >0.5% NaCl Decreased if incomplete in 0.30% NaCl	
Pyruvate kinase (RBCs)	13–17 IU/g Hb	
RBC survival time (^{51}Cr)	Half-life: 25–35 days	
Reticulocyte count (WB)	0.5–2.5% of RBCs	
Reticulocyte hemoglobin content, reticulocyte index, mean volume, parameter, hemoglobin, Immature reticulocyte fraction.	See Chapter 11	
Ringed sideroblasts	None	
Transferrin (S)	240–480 mg/dL	
Transferrin receptor (S)	0.57–2.8 $\mu\text{g/L}$	
Transferrin saturation	Males 14.2%–58.4%	Females 15.2%–49.3%
TfR-F index (sTfR:log serum ferritin)	Males 0.45–1.88	Females 0.46–13.29
Unsaturated vitamin B ₁₂ -binding capacity	870–1,800 pg/mL	
Vitamin B ₁₂ (S)	190–900 ng/L	
Volume (mL/kg body weight)	Males	Females
Blood	75	67
RBC	30	24
Plasma	44	43

RBCs, red blood cells; S, serum; WB, white blood.

Blood Coagulation Tests—Reference Values

Activated clotting time (WB)	70–180 sec
Activated protein C resistance (factor V Leiden) (P)	Ratio >2.1
Alpha ₂ -antiplasmin (P)	80%–130%
Antiphospholipid-antibody panel	
Partial thromboplastin time— lupus anticoagulant screen (P)	Negative
Dilute Russell viper venom time (dRVVT) (P)	Negative
Platelet-neutralization (P)	Negative
Anticardiolipin antibody IgG or IgM (S)	0–15 U
Antithrombin III (P)	
Immunologic	22–39 mg/dL

Blood	75	67
RBC	30	24
Plasma	44	43

RBCs, red blood cells; S, serum; WB, white blood.

Blood Coagulation Tests—Reference Values

Activated clotting time (WB)	70–180 sec	
Activated protein C resistance (factor V Leiden) (P)	Ratio >2.1	
Alpha ₂ -antiplasmin (P)	80%–130%	
Antiphospholipid-antibody panel		
Partial thromboplastin time— lupus anticoagulant screen (P)	Negative	
Dilute Russell viper venom time (dRVVT) (P)	Negative	
Platelet-neutralization (P)	Negative	
Anticardiolipin antibody IgG or IgM (S)	0–16 U	
Antithrombin III (P)		
Immunologic	22–39 mg/dL	
Functional	80%–130%	
Anti-Xa assay (heparin) (P)		
Unfractionated	0.3–0.7 IU/mL	
Low-molecular-weight	0.5–1.0 IU/mL	
Danaparoid	0.5–0.8 IU/mL	
Bleeding time (Simplate)	2–9.5 minutes	
Clot retraction, qualitative (WB)	Begins in 1/2–1 hr; 50%–100% in 2 hr	
Cryofibrinogen (P)	Negative	
D-dimer (P)	<0.5 µ/mL	
Coagulation factor assay (P)	Activity	Plasma levels
I (fibrinogen)		150–400 mg/dL
II (prothrombin)	60%–140%*	100 µg/mL
V	60%–140%*†	10 µg/mL
VII	60%–140%*†	0.5 µg/mL
VIII (AHG)	50%–200%*	0.1 µg/mL
IX	60%–140%*†	5 µg/mL
X	60%–140%*†	10 µg/mL
XI	60%–140%*	5 µg/mL

Copyrighted material

XII	60%–140%*	30 µg/mL
XIII screen	No deficiency detected	
Fibrin and fibrinogen degradation products (P)	<2.5 µ/mL	
Partial thromboplastin time, activated (aPTT) (P)	25–38 sec	¹
Plasminogen (P)		
Antigenic	8–14 mg/dL	
Functional	80%–130%	
Platelet aggregation	>65% aggregation in response to ADP, epinephrine, collagen, ristocetin, arachidonic acid	
Platelet count	150,000–350,000/µL	
Protein C, total antigen or functional (P)	70%–140%	
Protein S, total or free antigen or functional (P)	70%–140%	
Prothrombin-gene mutation G20210A	Absent	
Prothrombin time (P)	11–13 sec	
Reptilase time (P)	16–24 sec	
Thrombin time (P)	16–24 sec	
Ristocetin cofactor (functional vWF) (P)		
Blood Group O	75% mean of normal	
Blood Group A	105% mean of normal	
Blood Group B	115% mean of normal	
Blood Group AB	125% mean of normal	
von Willebrand factor (factor VIII:R) antigen (P)		
Blood Group O	75% mean of normal	
Blood Group A	105% mean of normal	
Blood Group B	115% mean of normal	
Blood Group AB	125% mean of normal	
von Willebrand factor multimers (P)	Normal distribution	
Coagulation time (Lee-White)	6–17 minutes (glass tubes) 19–60 minutes (siliconized tubes)	
Euglobulin lysis	No lysis in 2 hours	
Fibrinogen split products	Negative at >1:4 dilution Positive at >1:8 dilution	
Fibrinolysins (WB)	No clot lysis in 24 hours	
Platelet antibodies (S)	Negative	

1. [Anchor Name: aPTT](#)

[Agency W2O - Claudia Alves]