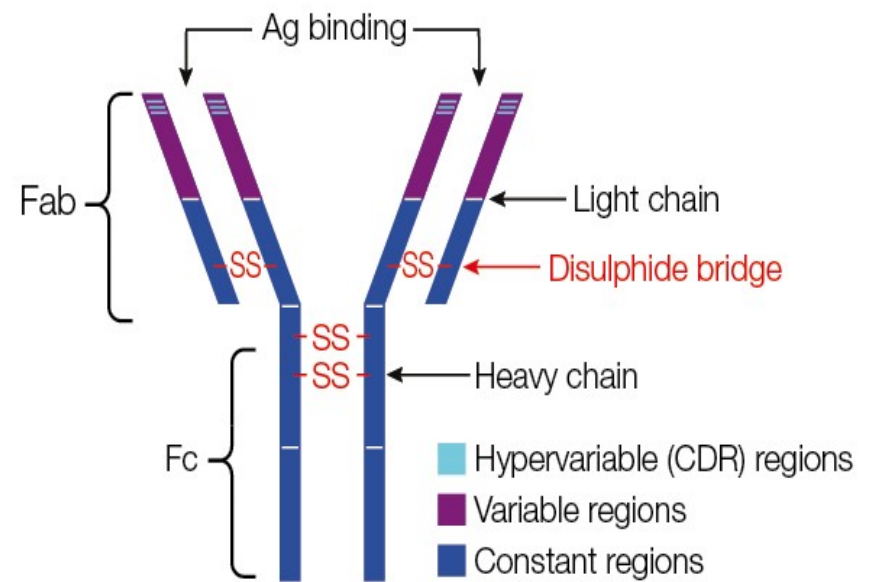
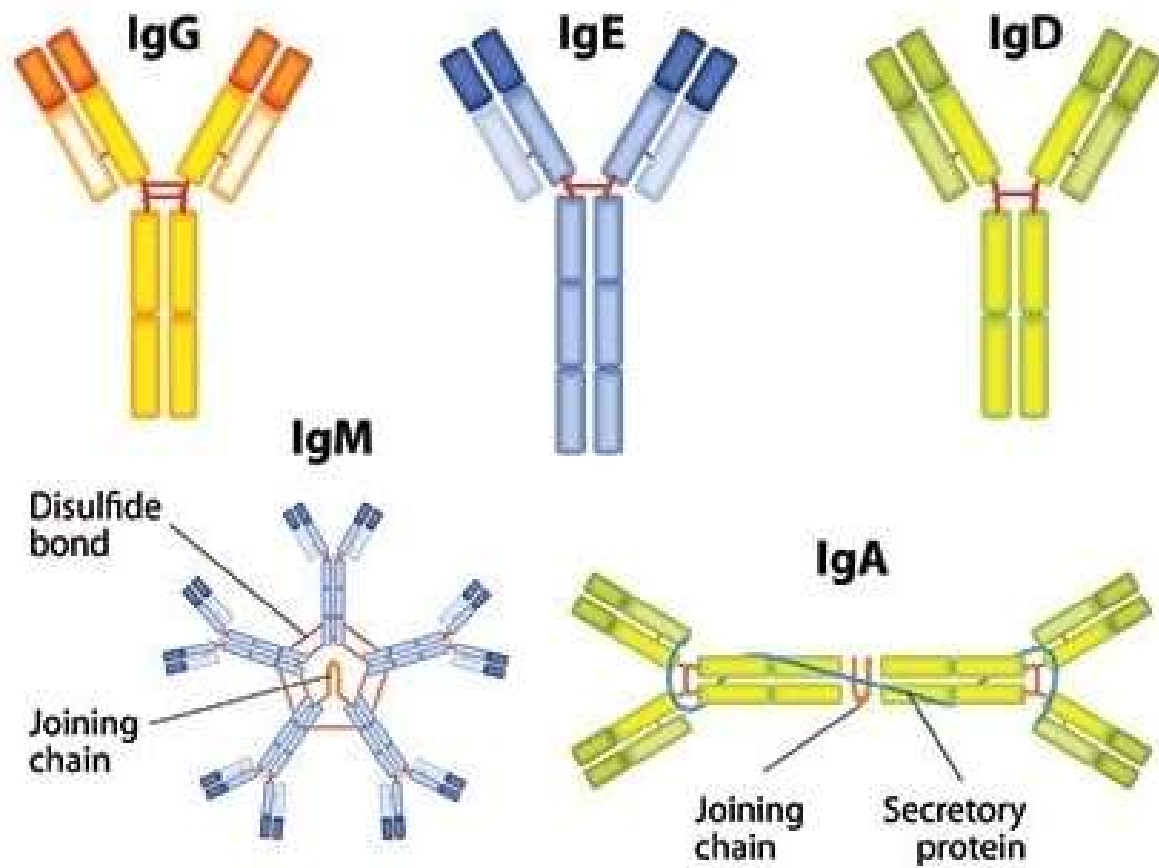


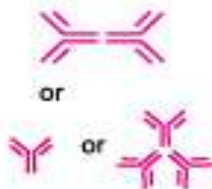




Immunoglobulin  
and  
inflammation  
dh

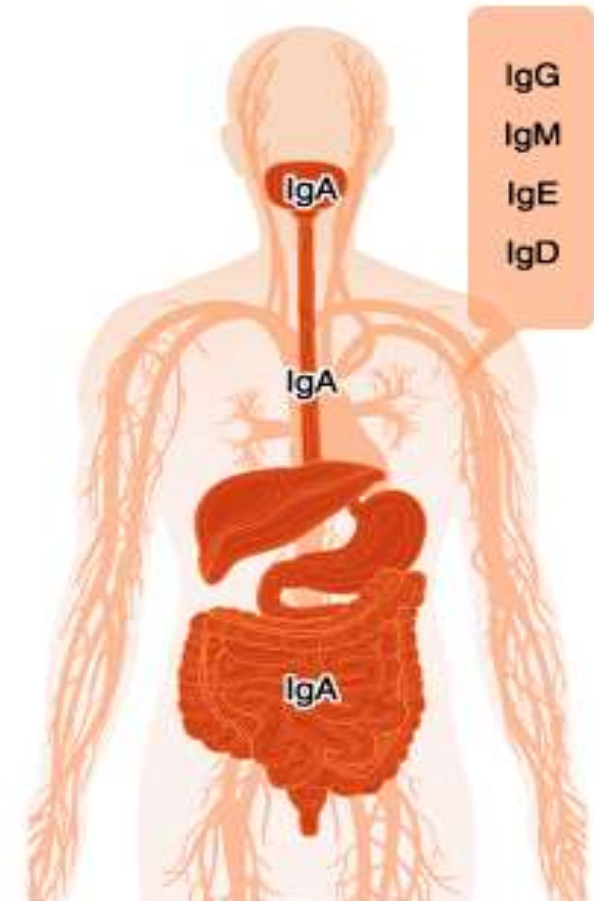


# Immunoglobulins



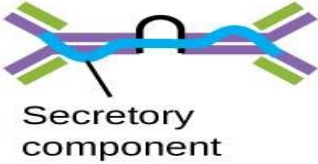


### Types and characteristics of antibodies

IgG		<ul style="list-style-type: none"> <li>• Highest opsonization and neutralization activities.</li> <li>• Classified into four subclasses (IgG1, IgG2, IgG3, and IgG4).</li> </ul>
IgM		<ul style="list-style-type: none"> <li>• Produced first upon antigen invasion. Increases transiently.</li> </ul>
IgA		<ul style="list-style-type: none"> <li>• Expressed in mucosal tissues. Forms dimers after secretion.</li> </ul>
IgD		<ul style="list-style-type: none"> <li>• Unknown function.</li> </ul>
IgE		<ul style="list-style-type: none"> <li>• Involved in allergy.</li> </ul>

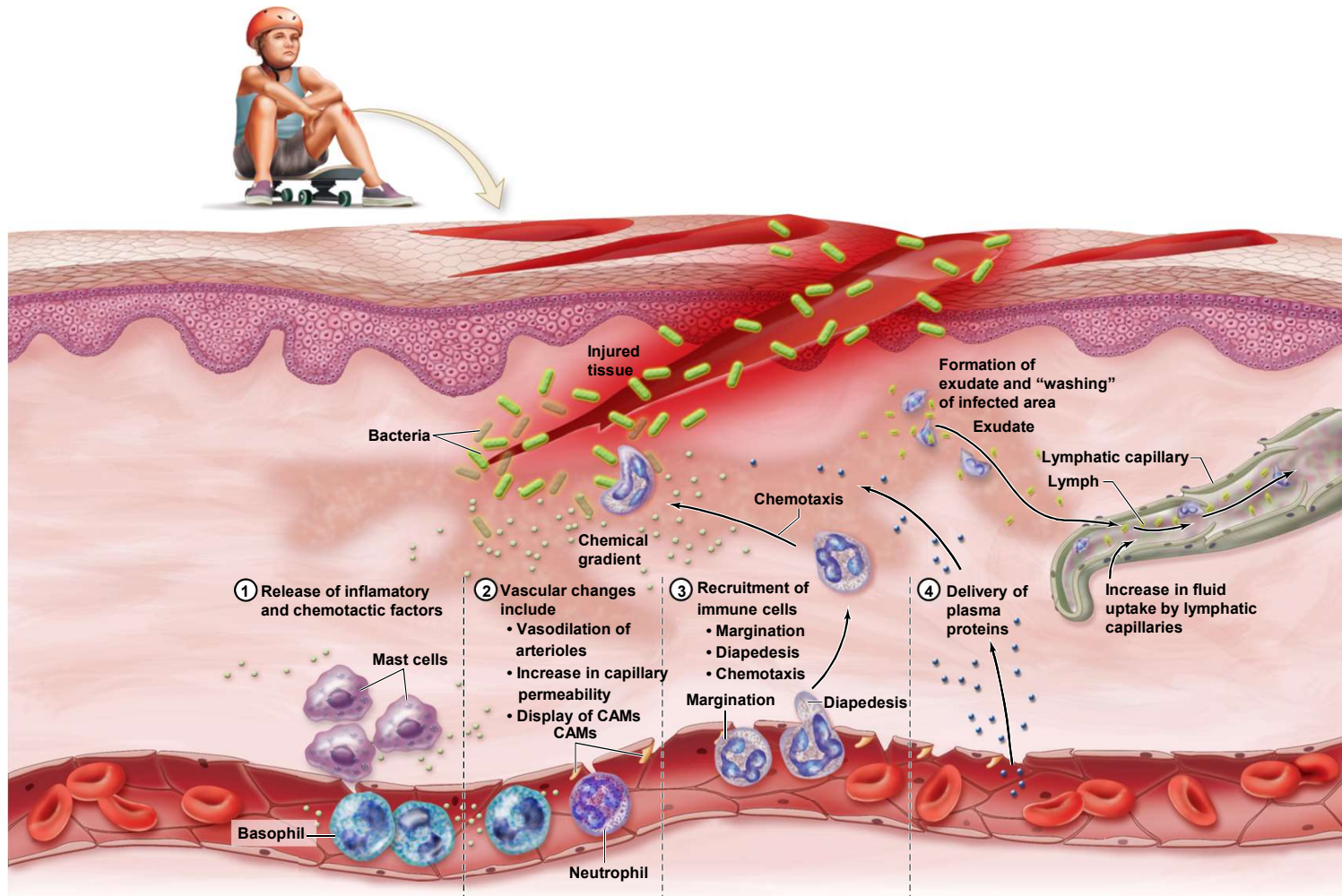
### Distribution in the body



## The Five Immunoglobulin (Ig) Classes

Properties	IgG monomer	IgM pentamer	Secretory IgA dimer	IgD monomer	IgE monomer
Structure					
Heavy chains	$\gamma$	$\mu$	$\alpha$	$\delta$	$\epsilon$
Number of antigen-binding sites	2	10	4	2	2
Molecular weight (Daltons)	150,000	900,000	385,000	180,000	200,000
Percentage of total antibody in serum	80%	6%	13% (monomer)	<1%	<1%
Crosses placenta	yes	no	no	no	no
Fixes complement	yes	yes	no	no	no
Fc binds to	phagocytes				mast cells and basophils
Function	Neutralization, agglutination, complement activation, opsonization, and antibody-dependent cell-mediated cytotoxicity.	Neutralization, agglutination, and complement activation. The monomer form serves as the B-cell receptor.	Neutralization and trapping of pathogens in mucus.	B-cell receptor.	Activation of basophils and mast cells against parasites and allergens.

# Inflammation





# The Cardinal Signs of Inflammation

