The 2nd PSU International Teaching Platform on Tumour Immunology and Immunotherapy

Jointly organized by

Prince of Songkla University, Université Pierre et Marie Curie (Paris 6) and Institut Pasteur

December 15 – 20, 2003

At The Department of Biomedical Sciences

Faculty of Medicine, Prince of Songkla University,

Hat Yai, Songkhla, Thailand

Glossary

Glossary of immunology

Abbreviation	***Description***
Ab	Antibody (see immunoglobulin)
ADCC	Antibody-Dependent Cell-mediated Cytotoxicity
Ag	Antigen (one distinguishes self antigens from non-self antigens)
AML	Acute Myeloid Leukemia
ALL	Acute Lymphoblastic Leukemia
APC	Antigen-Presenting cells: DC, Macrophages, B cells or thymus epithelial cells
B cells	B lymphocytes differentiate in the thymus and express a Ig [or BCR] at their surface
B16	A mouse melanoma cell line
bAb	Bispecific antibody
BCR	B-cell receptor: the antigen-specific receptor found at the surface of B lymphocytes (see Immunoglobulin)
C1, C2, C3…	Components of the complement system
CD	Cluster of Differentiation antigens (CD1, CD2, CD3…); characterized by specific monoclonal antibodies; expression is restricted to given cell types and/or differentiation stages
CD3	CD3 molecules are always associated to TCR, as a TCR-CD3 complex, at the surface of T cells
CD4	CD4 is expressed on the sub-population of T-cells that are restricted to recognize MHC class II molecules and show helper or proinflammatory effector functions
CD40-CD40L	Costimulatory signal for T-cell activation
CD28-B7	Costimulatory signal for T-cell activation
CD8	CD8 is expressed on the sub-population of T-cells that are restricted to recognize MHC class I molecules and show cytotoxic effector functions
CML	Chronic Myeloid Leukemia
CLL	Chronic Lymphoblastic Leukemia
CTL	Cytotoxic T lymphocyte; cytotoxic activity can be exerted through the perforin/granzyme or Fas/FasL pathways
CSF	Colony-Stimulating Factor: G-CSF: Granulocyte CSF; GM-CSF: Granulocyte/Macrophage CSF…
DC	Dendritic cells: a class of "professional" antigen-presenting cells together with macrophages, B lymphocytes and thymis epithelial cells
$F(ab)'_2$	Bivalent antibody fragment of the Ig molecule (see. Fig1 below)
Fab	Monovalent antibody fragment of the Ig molecule (see. Fig1 below)

Abbreviation	*Description*
FACS	Fluorescence-Activated Cell Sorting; Flow cytometry: technique based on the use of fluorescence-coupled antibodies to label cells
Fas/FasL	Receptor-ligand paris that mediates cytotoxicity
Fc	Cristallisable fragment of the Ig molecule (see. Fig1 below)
FcRγ, FcRε	Receptor for Fc portion of IgG or IgE molecules found at the surface of macrophages, neutrophils, mast cells…
GvHR	Graft versus Host Reaction
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HPV	Human PapillomaVirus
HSP	Heat Shock Protein: a class of protein induced in cells undergoing necrosis that is recognized by the immune system as a "danger signal" since they preferentially bind to Lox-1 or CD91 molecules found at the surface of APC
I-CAM V-CAM	Different Cell-Adhesion Molecules
IC	Immune complex (Ag-Ab)
IFN	Interferon (α, β or γ); belong to the cytokine family
Ig	Immunoglobulin: the antigen-specific receptor found at the surface of B lymphocytes or secreted; there are five classes of Ig depending on the heavy chain contant region: IgM, IgD, IgG, IgA, IgE
IL	Interleukin (IL-1, IL-2…): belong to the cytokine family
IL1R, IL2R…	Interleukin receptors
ITAM	Immune-receptor Tyrosine-based Activating Motif
ITIM	Immune-receptor Tyrosine-based Inhibitory Motif
KAR	Natural killer cell activator receptors; contain ITAM intracellular signaling motifs
LAK	Lymphokine-Activated Killer cells
KIR	Natural killer cell inhibitory receptors; contain ITIM intracellular signaling motifs
mAb	Monoclonal antibody
M, Mϕ	Macrophage
MAC	Membrane Attack Complex; pathogen lysis complex comprising C5b, C6, C7, C8 and C9 complement proteins
MAK	Monocyte-derived Activated Killer cells
MALT	Mucosa-Associated Lymphoid Tissues

Abbreviation	*Description*
MHC	Major Histocompatibility Complex (called HLA in humans for Human Leucocyte Antigens; H2 in the mouse); there are class I and class II MHC molecules which are differentially expressed in the body
MIP	Macrophage Inflammatory Protein
NHL	Non-Hodgkin Lymphoma
NK cells	Natural Killer cells
NKR	Receptor found at the surface of NK cells
PAMP	Pathogen-Associated Molecular Pattern; ligand of TLR found at the surface of microorganisms that can trigger innate immunity
PBMC	Peripheral Blood Mononuclear Cells
PCR	Polymerase Chain Reaction
PDGF	Platelet-Derived Growth Factor
PMN	PolyMorphonuclear Neutophils
RAG	Recombination Activating Gene; support the V(D)J recombination of variable gene segments to produce variable Ig or TCR gene domains
SCID	Severe-Combined Immuno-Deficiency syndrome
STAT	Signal-Tranducer and Activator Transcription factor
scFv	Single-chain variable fragment of the Ig molecule
T cells	T lymphocytes differentiate in the thymus and express a TCR at their surface
Tαβ Tγδ	T cells are of two types depending on their TCR: TCRαβ or TCRγδ
TCR	T-cell receptor: the antigen-specific receptor found at the surface of T lymphocytes; TCR is a transmembrane heterodimer
TGF	Tumor Growth Factor
TH	T Helper cells
TIL	Tumor Infiltrating Lymphocytes
TH1/TH2	Different types of T helper lymphocytes characterized by different cytokine production profiles: TH1 cells secrete IL-2, IFNγ, TGFβ… whereas TH2 cells secrete IL-4, IL-5, IL10…; TH0 are non-cytokine oriented TH cells
TLR1, TLR2…	Toll-like Receptor: homolog to the Toll receptor originally found in drosophila; recognize PAMP ligand and induce innate immunity
TNF	Tumor Necrosis Factor
Tr, T_{REG}	Regulatory T cells
WT	Wild type

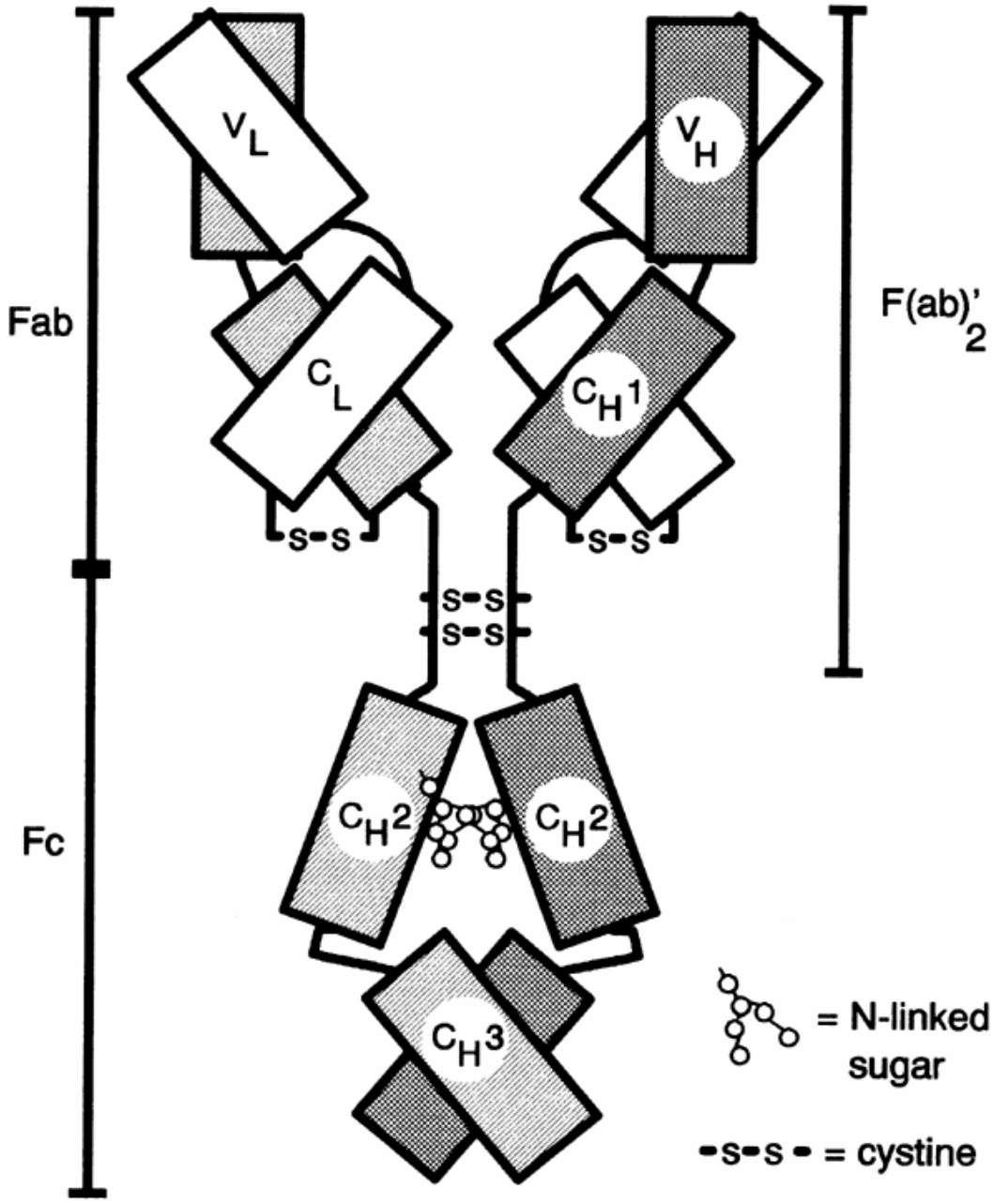

FIG. 1. Schematic representation of a prototypic immunoglobulin monomer. Each box symbolizes a complete immunoglobulin domain from either the heavy (shaded boxes) or light (unshaded) chain. Labeling of domains follows standard nomenclature, as outlined in the text. Interchain disulfide bonds are denoted by black bars. Note that these bonds are present between both heavy and light chain pairs and between the two heavy chains. Conserved N-linked carbohydrate occurs on all CH2 domains as shown, although some immunoglobulins are also glycosylated at additional sites elsewhere in the molecule. Also of note is the fact that all of the domains associate to form dimeric modules (VH/VL, CH1/CL, and CH3/CH3), except CH2 domains. The Fab, Fc, and F(ab)¢2 proteolytic fragments are demarcated by bars to either side of the diagram. (From ref. 6a, with permission.)