DRUG REGULATORY AUTHRITY OF PAKISTAN

SCHEDULE B
[see rules 11],

GROUPING OF MEDICAL DEVICES

General principles of grouping. — (1) For the purpose of registration, the medical devices shall be grouped in accordance with these methods of grouping.

(2) Medical devices may be grouped into one of the following categories, namely:

(a) single;
(b) family;
(c) system;
(d) set;
(e) in-vitro test kit; or
(f) in-vitrocluster.

(3) The basic methods of grouping consist of the following, namely:—

(a) one generic proprietary name;
(b) one manufacturer; and
(c) one common intended purpose.

(4) All procedures shall be complied with when applying the grouping methods to medical devices.

(5) For the purpose of grouping, the corporate headquarters may be regarded as a manufacturer for its subsidiaries and regional manufacturing sites.

Methods of grouping,—

Single Medical Device:

A medical device shall be grouped as a single medical device if its proprietary name is identified by the manufacturer with a specific intended use and it is sold as a distinct packaged entity and may be offered in a range of package sizes.

Family

A group of medical devices shall be grouped as a family if it consists of a collection of medical devices and each medical device in that collection,—

(a) is from the same manufacturer;
(b) is of the same risk classification;
(c) has the same medical device proprietary name;

(d) has a common intended purpose;
(e) has the same design and manufacturing process; and
(f) has variations that are within the scope of the permissible variants;

Permissible Variant

A permissible variant under clause (f) of sub-rule (2) shall be a characteristic of a medical device if—

(a) the manufacturing processes for the medical devices are the same, or very similar;

(b) the intended purpose of the medical devices is the same; and

(c) the risk profile of the medical devices, taking into account the factors specified in clauses (a) and (b), is the same.

(4) If a group of medical devices satisfies the conditions to be grouped as a family, but the proprietary names of the individual medical devices are different, the medical devices shall be listed separately on the medical device register based on their proprietary names.

(5) The proprietary name of each individual medical device that is grouped as a family shall be put on the label of each of the member of medical device family and individual medical device names may contain additional descriptive phrase.

(6) A group of medical devices shall be grouped as a system if it consists of a number of constituent-components of medical devices which are—

(a) from the same manufacturer;

(b) intended to be used in combination to complete a common intended purpose;

(c) compatible when used as a system; and

(d) sold under a system name or the labeling, instructions-for-use, brochures or catalogues for each constituent-component state that the constituent-component is intended for use with the system.

Set

A group of medical devices shall be grouped as a set if it consists of a collection of two or more medical devices, assembled together as one package by a manufacturer and have,—

(a) a single proprietary set name;

(b) a common intended use; and

(c) a classification which is allocated based on the highest class of the device within the set.

(8) Information on all medical devices within a set shall be submitted as part of one medical device registration application.

(9) Medical devices shall be supplied in the market as a set that is listed on the medical device register.

(10) Medical devices that are registered as part of a set shall have a single medical device registration before they are sold separately as an individual medical device.

(11) If a medical device in a set is supplied for use in another set, such a medical device shall be included in the registration application of that other set.

(12) The set name indicated for the group of medical devices shall appear in the product label affixed on the external package of the set. Individual medical devices in the set shall not be labeled with that set name. Individual medical devices in the set may contain additional descriptive phrases.

IVD-KIT

An *in-vitro* medical device shall be grouped as *in-vitro* diagnostic test kit if it consists of reagents or articles that are,—

(a) from the same manufacturer;

(b) intended to be used in combination to complete a specific intended purpose;

(c) sold under a single test kit name or the labeling, instructions-for-use, brochures or catalogues for each reagents or article states that the component is intended for use with the in-vitro diagnostic test kit; and

(d) compatible when used as a test kit;

(14) Information on all reagents or articles within an *in-vitro* diagnostic test kit shall be submitted as part of one medical device registration application.

(15) Reagents or articles within an *in-vitro* diagnostic test kit that are listed on the medical device register shall be supplied in the market.

(16) If the reagents or articles in an *in-vitro* diagnostic test kit are intended to be used in more than one *in-vitro* diagnostic test, such reagents or articles shall be included in the medical device registration application of each of the other *in-vitro* diagnostic test. Reagents or articles from another manufacturer may be registered with the *in-vitro* diagnostic test group.

CLUSTER

(17) An *in-vitro* medical device shall be grouped as in-vitro diagnostic cluster if it comprises of a number of *in-vitro* diagnostic reagents or articles that are,—

(a) from the same manufacturer;

(b) within risk classification A or B;

(c) of a common test methodology as listed in the Table 5 under this rule; and

(d) of the same in vitro diagnostic cluster category as listed in Table 5 under this rule**.**

(18) The in-vitro diagnostic cluster may include analyzers that are designed for use with the reagents in the *in-vitro* diagnostic cluster.

(19) Information on all reagents or articles within an in-vitro diagnostic cluster shall be submitted as part of one medical device registration application.

(20) Reagents or articles within an in-vitro diagnostic cluster that are listed on the medical device register shall be supplied in the market.

(21) Individual reagents or articles that are listed as part of a cluster can be supplied separately.

(22) If a reagent or article is intended for multiple usage categories and can be grouped in more than one *in-vitro* diagnostic cluster, the applicant can choose to group the reagent or article as part of any one of the *in-vitro* diagnostic clusters it qualifies and information to support all the intended uses of the reagent or article must be submitted as part of the medical device registration application.

TABLE 1
LIST OF METHODOLOGY AND CLUSTER CATEGORY FOR *IN-VITRO* DIAGNOSTIC CLUSTER

S.No	**METHODOLOGY**	**CLUSTER CATEGORY (CLOSED LIST)**	**EXAMPLE OF ANALYTES (NON-EXHAUSTIVE LIST)**
(1)	(2)	(3)	(4)
1.	Clinical chemistry	Enzymes	Acid phosphatase; alpha-amylase; creatinekinase; gamma-glutamyltransferase; lactate dehydrogenase; lipase
		Substrates	Albumin; bilirubin; urea or blood urea nitrogen; cholesterol; creatinine; glucose
		Electrolytes reagents	Ammonia; bicarbonate; calcium; chloride; magnesium; phosphate inorganic/phosphorus
		Electrolyte electrodes	Ammonia electrodes; carbon dioxide (bicarbonate) electrodes; calcium electrodes; chloride electrodes; magnesium electrodes;potassium electrodes
		Substrate electrodes/ biosensors	Creatinine electrodes; glucose electrodes; glycated hemoglobin; electrodes; lactate electrodes; urea electrodes; bilirubin electrodes
2.	Immuno-chemistry	Immunoglobulins (withoutIgE).	Immunoglobulin A; immunoglobulin D; immunoglobulin G; immunoglobulin M; kappa and lambda chain; immunofixation kits
		Complement	Complement component C1q; complement

		components	component C1 inactivator; complement component C3/C3c; complement component for Bb; complement component C4; complement component C5a
		Transport proteins	Albumin; ceruloplasmin; haptoglobin; hemopixin; lactoferrin; pre-albumin/transthyretin
		Lipoproteins	Apolipoprotein AI; apolipoprotein AII; apolipoprotein B; apolipoprotein E sub-typing; lipoprotein (a)
		Other specific proteins	a1-acid glycoprotein; a1-antitrypsin; a2- macroglobulin; a1-microglobulin; fibronectin; immunoreactive trypsin
		Allergy	Immunoglobulin E–total; immunoglobulin E– screen; immunoglobulin E–specific, monotest/monoresult; allergene specific IgA; allergene specific IgG
		Cancer markers	BR-marker CA15-3; GI-marker CA19-9, CA242; carcinoembryonicantigen; total prostatic specific antigen; alphafetoprotein (AFP); p53
		Thyroid function markers	Free triiodothyronine; free thyroxine; thyroid stimulating hormone; T–uptake; thyroglobulin; neonatal thyroxine
		Fertility/pregnancy hormones/ proteins	Androstenedione; estradiol; prolactin; human chorionic; gonadotropin total; human placental lactogen; estriol
		Diabetes assays (hormones)	C-peptide; glucagon; insulin; glycosylated/glycatedhaemoglobin; islet cell Ab; proinsulin
		Renal metabolism assays	Aldosterone; angiotensin I/II; angiotensin converting enzyme; cortisol; renine
		Bone and mineral metabolism assays	Bone alkaline phosphatase; calcitonin; cross-linked C-telopeptides; cross-linked N-telopeptides; cyclic adenosine; monophosphate; hydroxyproline
		Endocrine hormones and peptides	Adrenocorticotropic hormone; human growth hormone; insulin-like growth factor I; insulin-like growth factor binding protein 1; vasointestinal peptide; vasopressin
		Neuroendocrine function assays	Bombesin; 17-hydroxy-ketosterone; β-endorphin; neurotensin; somatostatin;

			substance P
		Other individual and specified hormones	Gastrin; gonadotropin-releasing hormone; melatonine; pepsinogen; adrenalin; dopamine
		Anaemia	Erythropoietin; ferritin; folate; iron; iron binding capacity; soluble transferrin receptor
		Vitamins	Vitamin B1; vitamin B2; vitamin B6; vitamin B12; vitamin D (cholecalciferol); intrinsic factor (blocking antibody)
		Non-immunosuppressive therapeutic drug monitoring	Phenobarbitol; digitoxin; gentamicin; valproic acid; caffeine; theophylline; methotrexate
		Immunosuppressive therapeutic drug monitoring	Cyclosporine; tacrolimus; rapamycin (sirolimus); mycophenolate
		Toxicology	Amphetamines; cocaine; barbiturates; morphines; phencyclidine; acetaminophen; catecholamines; ethanol; salicylate
		Auto-immune diseases	Anti-nuclear antibodies (ANAs); anti-topoisomerase; organ-specific auto antibodies; circulating immuno-complex; TSH receptor antibodies; anti-cardiolipin antibodies
		Rheumatoid-inflammatory diseases markers	Anti-streptococcal hyaluronidase; anti-streptokinase; anti-streptolysin O; C-reactive protein; anti-staphylolysin; anti-streptococcal screening
		Liver function	MEGX; carbohydrate deficient transferring
		Cardiac markers	BNP/proBNP; creatine kinase-MB; myoglobin; troponin I/T; homocysteine; high-sensitivity C-reactive protein
		Bacterial infection - immunology	*Bacillus subtilis; escherichia coli*
		Viral infection – immunology	Influenza virus
		Parasitic infection - immunology	*Entamoebahistolytica; leishmania*
		Fungal infection - immunology	*Candida albicans; aspergillus*
3.	Haematology/	Hemoglobin testing	Hemoglobin determinations (totalHb); fractional oxyhemoglobin (FO2Hb);

	histology/cytology (Blood tests for transfusions excluded)		fractional carboxyhemoglobin(FCOHb); fractional methemoglobin(FMetHb); fractional deoxyhemoglobin(FHHb)
		General coagulation tests	Prothrombin time; thrombin time; activated clotting time; activated partial thromboplastin time
		Haemostasis (coagulation)	Prothrombin; thrombin; fibrinogen; protein C and protein S reagents; C1-inhibitors; heparin; alpha- antiplasmin; fibrin; factor XIII; platelet factor 4; plasminogen
		Other hematology tests	Complete blood count; hematocrit; erythrocyte; sedimentation rate
		Cytokines (lymphokines)/ immunomodulators	Interferons; soluble antigens/receptors; tumor necrosis factors; interleukins; colony stimulating factors; tumor necrosis factors receptors; interleukins receptors
		Histology/cytology reagents	Cytochemical staining; embedding, fixing, mounting media; stain solutions; immuno histology kits
4.	Microbiology - culture (i) cytochemical staining (ii) embedding, fixing, mounting media (iii) stain solutions (iv) immunohistology kits	Culture media	Dehydrated culture media (DCM); additives for DCM; prepared media (tubes, bottles, plates); cells, media, serum for viral culture
		Susceptibility testing Identification of bacteria by testing for the susceptibility of the bacteria to the certain antibiotics	Erythromycin susceptibility test for *staphylococcus aureus;* tobramycin susceptibility test for *pseudomonas aeruginosa;* Fungal susceptibility testing
		Biochemical culture identification (ID)	Gram negative manual ID; Gram positive manual ID; Other ID kits manual - anaerobes, fastidious; mycoplasma
		Immunological culture identification (ID)	Streptococci grouping slide tests; serotyping (E.coli, salmonella, shigellaetc.)
		Nucleic acid (NA) based culture identification (ID)	NA identification – MRSA; NA identification – other resistance markers
		Serological identification (ID)	For parasitology and mycology (fungi and yeast)
5.	Molecular biology	Oncogenes	p53; MYC

		Genes, whose mutation or enhanced expression, turns a normal cell into a cancer cell.	(8q24) TERC (3q26)
		Bacterial infections (detection by NA reagents)	Staphylococcal detection; E.coli detection
		Viral infections (detection by NA reagents)	Influenza and para-influenza NA reagents
		Fungal infections	Fungi NA reagents