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In addition to the tests described in the list below, Medistri SA offers complete validations (examples: verification of cleaning processes with markers, search for residues and impurities, sterilization, stability studies, etc.), depending on the (EP, USP, ICH, ISO, ASTM, AAMI, ISTA ...) and target markets.

In terms of consulting, Medistri SA proposes the documentary constitution of literature search report, toxicological assessment, biological safety assessment, among others ...

Code	Description	Technique / Method	Sample Size	TAT	Matrix
Microbiology					
100303	Bioburden Total Aerobic bacteria microbial count (TAMC), yeast and moulds (TYMC)	ISO 11737-1 EP, USP	1pc, 1ml or 1g	5 - 10 days	  
100304	Bioburden Anaerobic Bacteria	ISO 11737-1 EP, USP	1pc, 1ml or 1g	5 - 10 days	  
100313	Bioburden, Total Aerobic bacteria (TAMC)	ISO 11737-1 EP, USP	1pc, 1ml or 1g	5 - 10 days	  
100301	Bioburden product testing : Validation	ISO 11737-1 EP, USP	5 pcs	5 - 15 days	  
100312	Enumeration on biological indicator	N/A	to be defined	5 - 10 days	 
100308	Bacterial endospore staining	ISO 11737-1 MSDA	1 pure culture	5 - 10 days	  
100309	Gram coloration	ISO11737-1 MSDA	1 pure culture	5 - 10 days	  
100320	PCR identification of germs : bacterial germ (16S) or fongies (ITS), Purification included 95-98% of germ determination	ISO 11737-1	1 pure culture	1 - 3 weeks	  
100321	Biochemical identification of germs (Vitek) with microbiological evaluation. 80-85% of germ determination.	ISO 11737-1 EP, USP	1 pure culture	5 - 10 days	  
100326	Research of Campylobacter qualitative method	MSDA	to be defined	5 - 10 days	  
100328	Research of Germs For one germ in the following list : - Enterobacteria - Escherichia Coli - Salmonella - Pseudomonas aeruginosa - Staphylococcus aureus - Clostridium - Yeast, moulds	MSDA	to be defined	5 - 10 days	  






































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Code	Description	Technique / Method	Sample Size	TAT	Matrix
100310	Research of specified germ, individual : - Enterobacteria - Escherichia Coli - Pseudomonas aeruginosa - Staphylococcus aureus - Salmonella - Clostridium - Yeast and moulds	ISO 11737-1 EP, USP	to be defined	5 - 10 days	  
100318	Research of germs : Package 7 species Enterobacteria, Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, Salmonella, Clostridium, yeast and moulds	ISO 11737-1 EP, USP	to be defined	5 - 10 days	  
100319	Research of germs : Package 5 species Enterobacteria, Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus, yeast and moulds	ISO 11737-1 EP, USP	to be defined	5 - 10 days	  
100327	Research of Legionella , qualitative method	MSDA	1000ml	30 days	  
100505	Endotoxin Test Quantitative colorimetric kinetik method Pyrogen	EP, USP, AAMI	1 product	2 - 5 days	 
100501	LAL - Endotoxin testing validation Quantitative colorimetric kinetik method, pyrogen.	EP, USP, AAMI	3 lots	3 - 10 days	 
100331	Antimicrobial Effectiveness Testing	PE, USP	to be defined according to category	approx 40 days	 
Sterility					
100103	Product sterility tests : aerobic & anaerobic, on 2 culture media Cleanroom environment	EP, USP, ISO 11737-2	2 products	14 - 20 days	  
100108	Product sterility tests : Validation Bacteriostasis, fungistasis	EP, USP, ISO 11737-2	6 products	5 - 10 days	  
100901	Biological Indicators population Control , including report	ISO 11138-1 ISO 11138-2	4 BI's	10 days	
100201	Biological sterility testing : BI sterility testing on strips, thread or discs	ISO 11138 ISO 14161 ISO 11135-1 EP, USP	1 product	7 - 10 days	 
100202	Biological sterility testing : BI sterility (suspension)	ISO 11138 ISO 1416 ISO 11135-1 EP, USP	1 product	7 - 10 days	 
100330	Verification of the microbicid efficiency of a sterilizing agent on a biological load in worst-case location. Flat rate for 10 pieces including : - Formulation of a microbial ecology representative of the product (abundance/dominance) - Generative customized BI's - Number of cfu - Placement in worst case location	ISO 11138-1 ISO14161	to be defined	15 - 20 days	
1006007	Steam Validation Review : annual quick review Generally done 1 year after basis validation, including : - Customer confirmation on no changes on products, manufacturing process, bioburden - Customer confirmation about routine service was acceptable - Medistri yearly review on deviations, Medistri equipment review record - Medistri confirmation on process calibration and maintenance - Final assessment report				
































































































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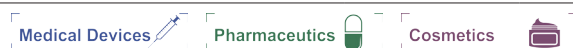
Code	Description	Technique / Method	Sample Size	TAT	Matrix
Biocompatibility					
100607	Extractable Metallic Ions (ICP-Fingerprint)	ISO 10993-12, ASTM G 136-03	60 cm ² or 5 g	2-4 weeks	  
100606	GC/MS Fingerprint with 2 solvents, Identification of extracted substances Brief toxicological evaluation (one substance)	ISO10993-12	2x5g or 2x60 cm ²	2 - 4 weeks	  
1006201	Cytotoxicity by direct contact Qualitative	ISO10993-5	3 cm ²	14 days	  
1006202	Cytotoxicity by indirect contact : agar diffusion Qualitative	ISO10993-5	3 cm ²	14 days	  
1006205	XTT cytotoxicity test on extract Qualitative and quantitative analysis	ISO10993-5 ISO10993	6cm ² or 0.2g	14 days	  
1006217	Chromosome Aberration Test V79 Chinese hamster cells	ISO10993-3 OECD473	2x1200 cm ² or 2x40g	21 weeks	 
1006218	Chromosome Aberration Test Human lymphocyte	ISO10993-3 OECD473	2x1200 cm ² or 2x40g	21 weeks	 
1006221	Micronucleus test in vitro (mammalian cells) Human lymphocyte cells	ISO10993-3 ISO10993-13 OECD487	2x1200cm ² and 600cm ² or 60g	14 weeks	 
1006220	Micronucleus test in vitro (mammalian cells) V79 Chinese hamster cells	ISO10993-3 ISO10993-13 OECD487	2x1200cm ² and 600cm ² or 60g	14 weeks	 
1006222	Micronucleus test in vivo Test on 10 animals (5 males, 5 females) Polar extraction	ISO10993-3 OECD474	2x240cm ²	17 weeks	 
1006216	Genotoxicity: Salmonella typhimurium Reverse Mutation Test (ames-test) 5 strains of Salmonella typhimurium Polar and non-polar extractions	ISO10993-3	4x30 cm ² ou 4x1g	4 weeks	 
1006219	Mouse Lymphoma Test	ISO10993-3 OECD476	1x750 cm ² and 1x2250 cm ² or 1x25g and 1x75g	17 weeks	 
1006225	Dynamic Hemocompatibility with Human Blood Dynamic blood contact	ISO10993-4	5 products	10 weeks	
1006224	Hemolysis test Direct contact and extraction on human blood	ISO10993-4 ASTM F756	6x60cm ² or 6x2g	4 weeks	
1006223	Implantation test The exposure time for implantation studies depends on the clinical use of the device. For implantable device, an evaluation of systemic toxicity after subcutaneous implantation is recommended as a local tolerance after implantation. Relevant and consistent information about the device must be provided by the sponsor. Quoted on demand				
1006212	Dermal Irritation (alternative test for use by contact with skin) Extraction and single application on rabbits, 4 hours contact time minimum with intact skin, 72h observation period.	ISO10993-10	120cm ² or 5g for preapration	6 weeks	
1006211	Irritation : intracutaneous reactivity on rabbits 2 extracts	ISO10993-10	2x30cm ² or 2x5g	3 weeks	
1006227	Irritation - ocular irritation Ocular irritation, 2 extracts per animal (polar and apolar) if direct application is not possible. 3 Rabbits. Single conjunctival (or repeated on request), 72h observation period (up to 14 days).	ISO 10993-10	120cm ² or 5 g	11 weeks	

 Medical Devices
  Pharmaceuticals
  Cosmetics

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Code	Description	Technique / Method	Sample Size	TAT	Matrix
1006209	Sensibilization LLNA: local lymph node assay Mice/SpF-CBA/Ca, isolation of lymphatic cells, extraction media: acetone/oliveoil mixture Quantitative method, determination in-vitro of 3HT dtR Note : for complexe medical devices FDA decides the acceptance of the LLNA	ISO 10993-10 OECD429, ISO 10993-12	3x35cm ² or 3x4g	8 weeks	 
1006210	Sensibilization by Buehler Test Test without extract, appropriate for bandages, compresses...	ISO 10993-10	420cm ² or 70m	10 weeks	
1006208	Sensibilization according to Magnusson and Kligman on guinea pigs Qualitative analysis	ISO 10993-10 ISO 10993-12	3x90 cm ² or 6x3 g	8 weeks	 
1006214	Acute systemic toxicity on mouses 4 extracts, 72h observation period.	ISO 10993-11 ASTM F750 USP	x5g, 2x60 cm ² , (thickness >0.05mm) or 2x120cm ² (thickness < 0.5mm)	4 weeks	  
1006215	Subacute subchronic systemic toxicity ISO10993-11 The duration of studies depends on the clinical use of the device. A minimum of 14 consecutive applications for 14 days is required. Implantable device: a long-time evaluation of toxicity combined with test of implantation and toxicity is recommended. Relevant and consistent information about the device must be provided by the sponsor. Quote on demand				  
1006228	Irritation - Vaginal Irritation 2 eluates test on rabbits Intravaginal, daily for 5 days Histopathological observation (macroscopic), assessment of the application sites assessment of the vagina and surrounding tissues	ISO 10993-10	200 cm ² or 25g	approx 12 weeks	 
1006229	Irritation - In Vitro Irritation Test	OECD 439 ISO 10993-10	3 g, 3 ml or 18 cm ²	6 - 7 weeks	  
1006230	In Vitro eye irritation test (epiocular)	OECD 492	1g, 1ml or 6cm ²	6 - 7 weeks	  
1006231	In Vitro skin corrosion	OECD 431	3g, 3ml or 18cm ²	6 - 7 weeks	  
1006232	Direct Peptide Reactivity Assay (DPRA) Sensitization potential	OECD 442C	5g, 5ml or 30cm ²	6 - 7 weeks	  
1006233	Skin Sensitization - KeratinoSens™	OECD 442D	30g, 30ml or 180cm ²	6 - 7 weeks	  
Environmental Monitoring, Air & Surfaces					
100413	Personnal protection set for analysis (sterile head-cover, gloves, overshoes, disinfectant)				  
100408	Transport costs, per kilometer				  
100401	Plate analysis (Aerobic bacteria and moulds)	ISO 14001 14644-1 14698-1 14698-2 EU GMP	1 plate	5 - 10 days	  
100402	Plate analysis (Anaerobic bacteria)	ISO 14001 14644-1 14698-1 14698-2 EU, GMP	1 plate	5 - 10 days	  
100403	Air monitoring plate (TSA)	N/A	1 plate	N/A	  
100404	Surface or handprints monitoring plate (CT)	N/A	1 plate	N/A	  










































Code	Description	Technique / Method	Sample Size	TAT	Matrix
Water Analysis / for injection / purified					
100602	Water analyses : Aerobic bacterial count on TSA	EP, USP	100ml	5 - 10 days	  
1002114	Water conductivity - price per analysis	EP, USP	100ml	5 days	  
100603	Water - Hardness Colorimetric, limit assay <1.5; 1.5 - 2.5; >2.5mmol/l CaCO3	EP, USP	100 ml	5 days	  
100601	Water Endotoxin Endotoxin test on water, quantitative colorimetric kinetic method	EP, USP, AAMI st 72	100ml	5 days	  
1002104	Water, mesophilic aerobic germs R2A Oligotroph aerobic germs R2	EP, USP, ISO 11737-1	100ml	5 days	  
1002105	Water - Legionella sp Research of Legionella sp	ISO 11731 ISO 15883-1	100ml	10 - 15 days	  
1002118	Water - Mycobacteria Research of Mycobacterium or Mycoplasma, qualitative	ISO 15883-1	100ml	10 - 60 days	  
1002115	Water - pH	EP, USP	100ml	5 days	  
1001105	Total Organic Carbons (TOC) on water	EN 1484, ASTM G 136-03	100ml	5 - 10 days	  
100604	Water - Sterility testing Sterility test pharma water	EP, USP	to be defined	15 - 20 days	  
100605	Water - Titration Acid base complexometry, redox	EP, USP	to be defined	5 - 10 days	  
1002119	Water - Heavy Metals, limit essay (LOQ : 0.1 mg/l)	EP, USP	100ml	10 days	  
1002120	Water - Nitrate, limit essay (LOQ : 0.1 mg/l)	EP, USP	100ml	10 days	  
Packaging tests, stability study					
<i>On Porous, non porous, header bag, peel pouch, Blister. + real time aging test (shelf life)</i>					
N/A	Special Project, Device Life Cycle (aging), multiple cleaning and sterilisation Test cleaning (manual, semi-automatic and automatic) and sterility testing (steam, EtO) cycle for reusable devices, according to user manual (IFU) ISO 11134, ISO 17665, ISO 17664				
100803	Accelerated Aging Tests on packaging with controlled temperature Price per day according to load volume (up to 400L, min CHF 15.75) and temperature (-20°C to 60°C).	ASTM F1980 ISO 11607-1	to be defined	to be defined	  
100850	Bubble emission test on packaging (for porous or non-porous packages), price for each package	ISO 11607 ASTM F2096-11	final packaging non damaged	5 - 10 days	
100810	Burst test	ISO 11607 ASTM F1140 / F1140-13	final packaging non damaged	5 - 10 days	
100820	Creep test	ISO 11607 ASTM F1140 / F1140-13	final packaging non damaged	5 - 10 days	
100840	Dye migration test	ISO 11607, ASTM F1929-15 or ASTM F3039-15	final packaging non damaged	5 - 10 days	
100808	Visual inspection of packaging	ISO 11607 ASTM F1886	final packaging non damaged	5 - 10 days	  
100804	Temperature and humidity profiling per day (°C/%RH) during the routine test	N/A	N/A	N/A	  




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Code	Description	Technique / Method	Sample Size	TAT	Matrix
100830	Seal peel test	ISO 11607 ASTM F88 / F88M-15	final packaging non damaged	5 - 10 days	
100870	Transport simulation test (conditioning, vibration, drop, impact. tests to be defined)	ASTM D4169- 16, ASTM D7386-12 ISTA serie	to be defined	1 - 2 months	
100809	Peeling test	NF EN 868-5 Annex C	final packaging non damaged	5 - 10 days	
100801	Determination of pH of aqueous extracts	ISO 11607, ISO 6588-1	min 2x2cm ²	5 - 10 days	
100802	Determination of pH - extra samples Price per extra sample performed at the same time	N/A	N/A	N/A	
100880	Stability study on packaging In controlled temperature and humidity environment, 25°C / 60% RH, 30°C / 65% RH, 40°C / 75% RH. Price according to load volume and conditions	ASTM F1980 ISO 11607-1 ICH Q1A R2	to be defined	N/A	
100881	Aging test, ambient temperature Non-controlled environment. Price per day per pallet	ASTM F1980 ISO 11607-1 ICH-Q1 E	to be defined	N/A	
Chemical Tests					
100703	Glutaraldehyde Titration Potentiometric titration sodium sulphite / HCl	N/A	20ml	5 - 10 days	
100701	Residue test Ethylene Oxide, Ethylene Chlorohydrin (cold storage and manipula- tion of samples are not included), Ethylene Glycol only on demand.	ISO 10993-7 & ISO 10993-12 EMA	1 product	5 - 10 days	
100702	Residue test - Additionnal Extraction	N/A	N/A	N/A	
100704	Residue Test - Ethylene Glycol	ISO 10993-7 ISO 10993-2	to be defined	5 - 10 days	
100705	Products Containing Cannabidiol Nicotine dosage by Gas Chromatography	Swissmedic directive	0.5 - 1.0g	10 - 15 days	
100706	Products Containing Cannabidiol THC, CBD dosage by Gas Chromatography	Swissmedic directive	0.5 - 1.0g	10 - 15 days	
100707	Determination of Alcohol Residuals By Gas Chromatography	USP 621	2 ml - 2 g	5 - 10 days	
100609	Cosmetic - pH Determination	EP, USP	min 1 g or 1ml	5 - 10 days	
100608	Cosmetic - Appearance Visual or sensorial subjective analysis. Reference comparison based on 3 criteria ; odor, consistency, color.	N/A	1 product + 1 reference	5 - 10 days	
Cleaning / Cleanliness - Validation of reusable and new manufactured devices (disinfection, sterilisation)					
1001106	Analysis of residual Total Organic Carbon (TOC) medical devices	NF EN 1484, ISO 10993-12, ASTM G 136-03	water for TOC analysis	10 - 15 days	
1001108	Cleaning Validation TOC TOC Residual from medical devices, Method validation as per ICH Q2 R1. Chemical marker acc to FDA. Extraction vehicle : water for TOC.	ISO 10993-12 ASTM G 136-03 NF EN148	N/A	N/A	
1001111	Cleaning - Total Hydrocarbons (THC)	ISO 10993-12 ISO 9377-2 ASTM G136-03	1 product, min 10cm ²	5 - 10 days	

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Code	Description	Technique / Method	Sample Size	TAT	Matrix
1001113	Cleaning, THC Validation Total Hydrocarbon Residues on medical devices. Method validation according to ICH Q2 R1, chemical markers according to FDA, extraction vehicle : N-Hexame (extraction C10 - C40).	ISO 10993-12 ASTM G 136-03 EN1484	3 - 5 products, min 45cm ² / product	10 - 15 days	  
1001107	Analysis of residual proteins of medical devices	EN ISO 15883 ISO 15883 AAMI TIR30	1 product	5 - 10 days	
1001109	Cleaning - Residual Proteins, Validation Method validation as per ICH Q2 R1; compliant with USP and EP. Chemical marker	FDA, ISO 15883, AAMI TIR 30	3 - 5 products	5 - 10 days	
1001112	Cleaning - Washing desinfector, cycle reserved automatic	ISO 15883	to be defined	5 - 10 days	  
100421	Cleaning - Particle liquid analyse on extract - laser diffraction, Resolution: 1µm to 120µm	EP, USP, ISO 9276-1, AAMI TIR 42	1 products min 20 cm ²	5 - 10 days	 
100423	Particle counting Validation , 2 particle size, determination of a correction factor for 1 product.	EP, USP, ICH Q2 R1 ISO 9276-1 AAMI TIR 42	3 products	10 - 15 days	  
300115	Cleaning by piece	N/A	to be defined	5 - 10 days	
1001101	Detection of Mycoplasma by PCR Washer-disinfector qualification	ISO 15883	10 - 100ml	5 - 10 days	 
1001102	Detection of Mycoplasma by PCR - Extra Sample	N/A	N/A	N/A	 
1001103	Cleaning - XPS (X-ray) in situ analysis of the cleanliness of a standard surface	ASTM F2847, ISO 10993-18	1 product	10 - 15 days	
Miscellaneous					
100800	Cost of starting (chemical, biological or physical Specific preparation)				  
1006207	Fee to run one analysis according to GLP: +20% with a minimum of 250 CHF				  
1005301	Laboratory preparation for tests and on-site work				  
1005402	Consulting Laboratory : price per hour of work for the following consulting - development of procedure				
1001504	Administrative Cost				  
1005304	Protocol for laboratory test validation				  
1005302	Summary Test Report				  
1005305	Validation Report				  





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