



## DIAGNOSTIC SUBMISSION GUIDE

### POULTRY

## GENERAL INFORMATION

<b>PCR/Sequencing</b>	All organs listed may be sampled as tissue or alternative as dry swabs that carry sufficient load of suitable tissue material.
<b>Bacterial Culture</b>	We recommend swabs with transport media to prevent desiccation. Specific media might be required (e.g. for Mycoplasma spp.).
<b>Viral Culture</b>	We recommend organ/tissue samples. Swabs for viral culture should carry sufficient load of tissue material and should be placed into viral transport media.
<b>Serology</b>	If not stated differently ELISA will be applied by default. Serum samples can be sent frozen for Elisa and HI. Frozen samples are not suited for SRA (Serum Rapid Agglutination).
<b>Histopathology</b>	Do not freeze the samples! This will destroy the tissue and lead to artefacts.
<b>Autogenous Vaccines</b>	For production of bacterial autogenous vaccines we prefer invasive isolates (e.g. isolated from brain, bone marrow, joints, pericardium). For production of viral autogenous vaccines, please sample affected organs related to clinical signs (e.g. inflamed/swollen joints for Reovirus; gizzard erosions or liver showing alterations of IBH for Fowl Adenovirus).

Please note that the sample material may vary depending on state of the infection or type of manifestation of the disease. For selection of suitable sample material clinical symptoms, course of disease and gross pathological lesions should be taken into consideration. Information on how to correctly wrap samples for sending them in and which accompanying documents are needed can be provided by SAN Vet. For further information please contact us (E-mail: [office-de@san-group.com](mailto:office-de@san-group.com), Phone: +49 4473 943830).

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>VIRAL PATHOGENS / DISEASE</b>			
<b>Avian Encephalomyelitis Virus (AEV)</b>	Brain: preferably cerebellum	Refrigerated/Frozen	PCR
		Refrigerated <b>Do not freeze!</b>	Histopathology
	Serum, Paper Strips	Refrigerated	Serology
<b>Avian Hepevirus (aHEV/ Avian Hepatitis E Virus)</b>	Liver, Gut, Bile, (Spleen, Feces)	Refrigerated/Frozen	PCR Virus Isolation
<b>Avian Influenza (AIV/Influenza Virus Type A)</b>	Trachea, Lung, Brain, Cecal Tonsils, Tracheal/Choanal and Cloacal Swabs (Reproductive System)	Refrigerated/Frozen	PCR PCR Subtyping (H/N) Virus Isolation Sequencing
	Serum	Refrigerated	Serology (Elisa,HI)
<b>Avian Nephritis Virus (ANV)</b>	Kidney, Liver, Pancreas, Gut, Spleen, Bursa of Fabricius	Refrigerated/Frozen	PCR (ANV-1 & 2/ANV-3) Virus Isolation Sequencing

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>Avian Ortho-Reovirus (ARV)</b>	Joint: Cartilage, Synovia, Tendons, Capsule, Liver, Cecal Tonsils, Gizzard, (Spleen)	Refrigerated/Frozen	Virus isolation PCR Sequencing
	Serum, Paper Strips	Refrigerated	Serology
<b>Avian Paramyxovirus 3 (aPMV-3)</b>	Serum	Refrigerated	Serology (HI)
<b>Avian Polyomavirus (Hemorrhagic Nephritis and Enteritis of Geese (HNEG))</b>	Kidney, Gut, Spleen, Liver	Refrigerated/Frozen	PCR
<b>Avian Rhinotracheitis Virus (aMPV/ART/TRT/SHS)</b>	Trachea, Tracheal Swabs, Infraorbital Sinus, Choana, Nasal Exudate, Conjunctiva, (Lung, Reproductive System)	Refrigerated/Frozen	PCR (incl. Subtyping)
	Serum, Paper Strips	Refrigerated	Serology
<b>Avian Rotavirus</b>	Gut, Cloacal Swabs, Feces	Refrigerated/Frozen	PCR (Serotype A & D) Virus Isolation (inc. Serotyping)
<b>Baiyangdian Duck Flavivirus (BYDV/Duck Egg Drop Flavivirus)</b>	Brain, Ovary, Salpinx, Gut, Spleen, Tracheal and Cloacal Swabs	Refrigerated/Frozen	PCR Virus Isolation
<b>Chicken Anemia Virus (CAV)</b>	Cecal tonsils, Thymus, Spleen, Bursa of Fabricius, Bone marrow, Ovarium, Testicles, Liver, (Heart, Lung, Muscle)	Refrigerated/Frozen	PCR
	Serum, Paper Strips	Refrigerated	Serology
<b>Chicken Astrovirus (ChAstV)</b>	Liver, Spleen, Gut, Feces, (Kidney)	Refrigerated/Frozen	PCR (Group A & B) Virus Isolation Sequencing
	Serum, Paper Strips	Refrigerated	Serology (Group B only!)
<b>Duck Adenovirus/127-like/Egg Drop Syndrome 76 (DuADV/EDS 76)</b>	Uterus: Shell Gland, (Reproductive system), Gut (Waterfowl only), Cecal Tonsils, Liver, (Cloacal Swabs), Spleen, (Trachea)	Refrigerated/Frozen	PCR Virus Isolation
	Serum	Refrigerated	Serology (HI)
<b>Duck/Goose Circovirus (DuCV/GoCV)</b>	Feather Sheath, Spleen, Bursa of Fabricius	Refrigerated/Frozen	PCR
<b>Duck Enteritis Virus (DEV/Duck Plaque Virus)</b>	Gut, Caecal Tonsils, Liver, Spleen, (Pancreas, Kidney)	Refrigerated/Frozen	PCR
<b>Duck Hepatitis Virus Type 1 (DHV-1)</b>	Liver, Gut	Refrigerated/Frozen	PCR Virus Isolation

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>(Muscovy) Duck &amp; Goose Parvovirus (MDPV/GPV)</b>	Liver, Gut, Feces, Thymus, Heart, Spleen, Kidney	Refrigerated/Frozen	Screening PCR (MDPV & GPV) Typing PCR MDPV/GPV DIVA-PCR (Hoekstra)
<b>Duck/Goose Reovirus</b>	Feces, Liver, Spleen, Kidney, Pancreas	Refrigerated/Frozen	PCR Virus Isolation
<b>Fowl Adenovirus (FAdV)</b>	Liver (IBH), Gut, Cecal Tonsils, Kidney, Gizzard erosions, (Proventriculus)	Refrigerated/Frozen	Virus Isolation & PCR Sequencing (Species & Serotyping)
	Serum, Paper Strips	Refrigerated	Serology
<b>Fowlpox Virus (FPV)</b>	Skin alterations/Pox, Mucosal Skin alterations, Bone Marrow, Liver	Refrigerated/Frozen	PCR
<b>Hemorrhagic Enteritis Virus of Turkeys (TuHEV)</b>	Gut, Cecal Tonsils, Feces, Spleen, (Liver)	Refrigerated/Frozen	PCR
	Serum, Paper Strips	Refrigerated	Serology
<b>Herpesvirus of Turkeys (MeHV1, HVT)</b>	Feather Follicle, Feather Pulp, Feather Sheath, Tumorous Tissue, Blood, Spleen, (Eyes, Muscle, Liver, Cecal Tonsils)	Refrigerated/Frozen	PCR
<b>Infectious Bronchitis Virus (IBV)</b>	Trachea, Lung, Ovary, Oviduct, Kidney, Cecal Tonsils, Tracheal and Cloacal Swabs	Refrigerated/Frozen	PCR (Screening incl. IBV & TuCV) Variant-PCR Virus Isolation Sequencing
	Serum, Paper Strips	Refrigerated	Serology
<b>Infectious Bursal Disease Virus/Gumboro (IBDV)</b>	Lymphoid Tissues: Bursa of Fabricius, Spleen, Cecal Tonsils, (Liver, Kidney)	Refrigerated/Frozen	PCR incl. Pathotyping Sequencing
	Serum, Paper Strips	Refrigerated	Serology Vaccination Date Prediction
<b>Infectious Laryngotracheitis Virus (ILTV)</b>	Trachea, Larynx, (Lung)	Refrigerated/Frozen	PCR
	Serum, Paper Strips	Refrigerated	Serology
<b>Marek's Disease Virus (MDV, GaHV-2)</b>	Feather Follicle, Feather Pulp, Feather Sheath, Tumorous Tissue, Blood, Spleen, (Eyes, Muscle, Liver, Cecal Tonsils)	Refrigerated/Frozen	PCR Rispens-DIVA-PCR Sequencing
<b>Newcastle Disease Virus (NDV/aPMV-1)</b>	Trachea, Tracheal and Cloacal Swabs, (Lung, Liver, Spleen, Brain)	Refrigerated/Frozen	PCR PCR Pathotyping Sequencing & Pathotyping
	Serum, Paper Strips	Refrigerated	Serology (Elisa, HI)



Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
Reticuloendotheliosisvirus (REV)	Feces, Spleen, Tumorous Tissue, Blood	Refrigerated/Frozen	PCR
Turkey Astrovirus (TAsTV)	Liver, Spleen, Gut, Feces, (Kidney)	Refrigerated/Frozen	PCR (TAsTV-1,-2) Virus Isolation
Turkey Coronavirus (TCoV/ Turkey Coronavirus Enteritis)	Small Intestine (esp. Jejunum, Ileum)	Refrigerated/Frozen	PCR Sequencing
Turkey Viral Hepatitis (TVH, Picornavirus)	Liver, Gut, Feces, Kidney, Pancreas, Spleen, Cecal Tonsils	Refrigerated/Frozen	PCR Virus Isolation

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
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## BACTERIAL PATHOGENS / DISEASE

Avibacterium gallinarum associated disease	Trachea, Lung, Air Sacs	Refrigerated/Frozen	Culture
Avibacterium paragallinarum (Coryza contagiosa)	Sinus Infraorbitalis, Trachea, (Air Sacs)	Refrigerated/Frozen	<b>Specific</b> Culture PCR
Bordetella avium/Bordetella bronchiseptica	Trachea, Lung, (Sinus)	Refrigerated/Frozen	Culture PCR (B. avium)
	Serum	Refrigerated	Serology (B. avium)
Brachyspira spp.	Fresh Cecal Feces, Large Intestine, Cecum, (Spleen, Liver)	Refrigerated <b>Do not freeze!</b>	<b>Specific</b> culture
		Refrigerated/Frozen	PCR
Campylobacter spp. (thermophilic)	Feces, Gut – especially Ceca, Cloaca, (Liver, Bile)	Refrigerated <b>Do not freeze!</b>	<b>Specific</b> culture PCR
Chlamydiaceae (Chl. spp./psittaci/abortus/avium/gallinacea)	Choana, Trachea, (Lung, Air Sacs, Liver, Spleen, Pericardium, Cloacal Swabs)	Refrigerated/Frozen	PCR (Chl. spp.-Screening) PCR (Chl. species-PCR)
Clostridium perfringens (Necrotic Enteritis)	Gut (affected areas, Duodenum)	Refrigerated/Frozen	<b>Specific</b> Culture PCR (incl. Toxin Genes)
Coenonia anatina	Sinus, Trachea, Lung, Air Sacs, Brain, (Conjunctiva)	Refrigerated/Frozen	Culture
E. coli – Avian Pathogenic E. coli (APEC)	Bone Marrow, Brain, Heart/Pericardium, Joint, Yolk, Yolk Sacs, (Liver, Spleen, Lung, Air sacs, Ovary, Salpinx, Kidney)	Refrigerated/Frozen	Culture Serotyping PCR (Virulence Factors)
Enterococcus spp.	Bone Marrow, Heart, (Pericardium), Joint, Yolk, Yolk Sac, (Liver), Brain, (Air Sacs, Lung)	Refrigerated/Frozen	Culture
Erysipelothrix rhusiopathiae, Erysipelothrix spp.	Brain, Bone Marrow, Heart/Pericardium, (Liver, Spleen, Lung, Kidney)	Refrigerated/Frozen	Culture PCR

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>Gallibacterium anatis, Gallibacterium associated disease</b>	Heart/Pericardium, Ovary, Bone Marrow, (Liver, Lung, Air Sacs, Salpinx, Sinus, Trachea)	Refrigerated/Frozen	Culture
<b>Mycoplasma iowae</b>	Cloacal Swabs (Egg (Embryo), Joint, Tendon Sheaths, Meconium, Semen, Phallus, Cloaca, Vagina)	Refrigerated/Frozen <b>Culture: swabs with specific medium (do not freeze!)</b>	<b>Specific</b> Culture (resistogram upon request) PCR
<b>Mycoplasma gallisepticum (MG, CRD)</b>	Trachea, Tracheal Swabs, Sinus (Lung, Air Sacs)	Refrigerated/Frozen <b>Culture: swabs with specific medium (do not freeze!)</b>	<b>Specific</b> Culture (resistogram upon request) PCR DIVA-PCR (6/85, F & ts-11)
	Serum, Paper Strips	Refrigerated	(ELISA, SRA)
<b>Mycoplasma meleagridis</b>	Choanal/Tracheal – and Cloacal Swabs, (Sinus, Trachea, Lung, Air Sacs, Egg (Embryo), Semen, Phallus, Cloaca, Oviduct)	Refrigerated/Frozen <b>Culture: swabs with specific medium (do not freeze!)</b>	<b>Specific</b> Culture (resistogram upon request) PCR
	Serum, Paper Strips	Refrigerated	(ELISA, SRA)
<b>Mycoplasma synoviae (MS, Infectious Synovitis)</b>	Trachea, Tracheal Swabs, Joint, Synovia, (Lung), Salpinx	Refrigerated/Frozen <b>Culture: swabs with specific medium (do not freeze!)</b>	<b>Specific</b> Culture (resistogram upon request) PCR DIVA-PCR MS-H/MSI
	Serum, Paper Strips	Refrigerated	(ELISA, SRA)
<b>Mycoplasma spp. (Waterfowl)</b>	Reproductive Organs incl. Phallus, Cloaca, (Sinus, Trachea, Lung, Air Sacs, Egg)	Refrigerated/Frozen <b>Culture: swabs with specific medium (do not freeze!)</b>	<b>Specific</b> Culture (resistogram upon request) PCR
<b>Ornithobacterium rhinotracheale (ORT, Ornithobacteriosis)</b>	Lung, Air sacs, Joint, Heart/Pericardium, Sinus, Trachea	Refrigerated/Frozen	Culture Serotyping PCR
	Serum, Paper Strips	Refrigerated	Serology
<b>Pasteurella multocida (Pasteurellosis / Fowl Cholera)</b>	Heart/Pericardium, Brain, Bone Marrow, Joint, Liver, Spleen, Lung, Sinus, Wattle	Refrigerated/Frozen	Culture Serotyping PCR ssp. septica-PCR Capsule Type-PCR
	Serum, Paper Strips	Refrigerated	Serology
<b>Riemerella anatipestifer (Riemerellosis)</b>	Heart/Pericardium, Brain, Joint, Liver, Spleen, Lung, Air Sacs, (Conjunctiva, Sinus, Trachea)	Refrigerated/Frozen	Culture Serotyping PCR
	Serum, Paper Strips	Refrigerated	Serology (Turkey and Duck only! Species Information required)

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>Salmonella (Paratyphoid, non-host spec. Salm. spp.)</b>	Feces, Dust, Boot Swabs, Gut, Liver, Bile, Spleen, Ovary, Yolk, Yolk Sac, Egg, (Cloacal Swabs)	Refrigerated/Frozen	<b>Specific</b> Culture Serotyping PCR
<b>Salmonella Gallinarum Pullorum (Pullorum disease) &amp; Salmonella Gallinarum Gallinarum (Fowl Typhoid)</b>	Heart/Pericardium, Liver, Bile, Spleen, Ovary, Yolk, Yolk Sac	Refrigerated/Frozen	<b>Specific</b> culture SGP-DIVA-PCR (SGP, SGG,SG 9R)
	Serum	Refrigerated	Serology (SRA: SGP only)
<b>Salmonella Enteritidis &amp; Salmonella Typhimurium</b>	Feces, Dust, Boot Swabs, Gut, Liver, Bile, Spleen, Ovary, Yolk, Yolk Sac, Egg, (Cloacal Swabs)	Refrigerated/Frozen	<b>Specific</b> Culture Serotyping Differentiation Field-/Vaccinestrain (Bact.) PCR (incl. DIVA SE)
	Serum, Paper Strips	Refrigerated	Serology (Group B & D)
<b>Staphylococcus spp.</b>	Heart/Pericardium, Brain, Bone Marrow, Joint, Liver, (Spleen, Ovary, Yolk, Kidney)	Refrigerated/Frozen	Culture PCR (MRSA)
<b>Streptococcus spp.</b>	Heart/Pericardium, Brain, Bone Marrow, Liver, Spleen, Yolk	Refrigerated/Frozen	Culture

Pathogen/Disease Suspected	Specimen	Sample Preparation	Diagnostic Method
<b>PROTOZOA</b>			
<b>Histomonas meleagridis</b>	Liver, Cecum, Cloacal Swabs	Refrigerated/Frozen	PCR



We at **SAN Vet** regard ourselves as a competent and reliable partner in the field of animal health.

## **ANICON**

**Veterinary diagnostics & services**  
(Accreditation ISO 17025)

- Pathology
- Cultural bacteriology
- Cultural virology
- Serology
- PCR and sequencing

## **ANIVAC**

**Autogenous vaccines**

- Poultry
- Swine
- Cattle
- Sheep
- Goats
- Fish

## **KYLT**

**In-vitro diagnostic products**

- Kylt® Real-Time (RT-) PCR-Kits
- Kylt® purification products

## **LM-TECH**

**Feed- & food diagnostics**  
(Accreditation ISO 17025)

Examination of feed and food, drinking water for animals and humans.

- Microbiological / chemical analysis
- Molecular / immunological analysis
- Histology
- Quality management & consulting



**SAN Vet** ist Ihr kompetenter und verlässlicher Partner im Bereich Tiergesundheit.

## **ANICON**

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(Akkreditierung ISO 17025)

- Pathologie
- Kulturelle Bakteriologie
- Kulturelle Virologie
- Serologie
- PCR und Sequenzierung

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**Bestandsspezifische Impfstoffe**

- Geflügel
- Schwein
- Rind
- Schaf
- Ziege
- Fisch

## **KYLT**

**In-vitro Diagnostikprodukte**

- Kylt® Real-Time (RT-) PCR-Kits
- Kylt® Aufreinigungskits

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**Futter- und Lebensmitteldiagnostik**  
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Prüfung von Futter- und Lebensmitteln, Trink- und Tränkewasser

- Mikrobiologische / chemische Prüfungen
- Molekularbiologische / immunologische Prüfungen
- Histologie
- Qualitätsmanagement & Beratung
- Gegengutachten



**SAN Vet** es un colaborador competente y fiable en el sector de salud animal.

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**Diagnóstico y servicios veterinarios**  
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- Patología
- Cultivos bacteriológicos
- Cultivos virales
- Serología
- PCR y secuenciación

## **ANIVAC**

**Vacunas autógenas**

- Aves
- Cerdos
- Vacas
- Oveja
- Cabra
- Peces

## **KYLT**

**Productos de diagnóstico in-vitro**

- Kylt® Real-Time (RT-) PCR-Kits
- Kylt® Productos de purificación

## **LM-TECH**

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Pruebas de productos alimenticios / piensos, agua potable

- Pruebas microbiológicas / químicas
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- Histología
- Gestión y asesoramiento de calidad



**SAN Vet** est votre partenaire compétent et fiable dans le domaine de la santé animale.

## **ANICON**

**Diagnostic vétérinaire et services**  
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- Bactériologie de culture
- Virologie de culture
- Sérologie
- PCR et séquençage

## **ANIVAC**

**Vaccins autogènes**

- Volaille
- Cochon
- Bovin
- Mouton
- Chèvre
- Poisson

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**Produits de diagnostic in-vitro**

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- Kylt® Produits de purification

## **LM-TECH**

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Test des produits alimentaires et de l'eau pour consommation humaine / animale

- Tests microbiologiques / chimiques
- Tests de biologie moléculaire / immunologiques
- Histologie
- Gestion de la qualité et service de conseil