MicroBioS
microbiological services

Info Flyer

# Direct Samples of the Mouse

## General Information about Direct Samples of the Mouse

Direct samples are different samples taken from live animals. They are used - for example - for examination of mice in quarantine to control the health status of individual animals. Such samples can also be used within the general health monitoring program in an animal unit and can help to reduce the number of sentinel animals.

The samples are taken in the animal facility directly from the animals. Therefore, the collection of the samples is a critical point and has a direct impact on the quality of the results. The personnel should be trained in the respective methods for sample taking and the animals should be accustomed to the handling as well.

The direct samples generally include the following sample material:

Feces, fur swab («Sticky Swab»), pharynx swab (bacteriology swab or PCR swab), blood sample (Dry Blood Spot, DBS)

For your support we have prepared a short guide for the sample collection in the mouse. You will find this in the «MicroBioS Info Flyer: Collection of Direct Samples from the Mouse».

The MicroBioS – analytical programm for direct samples includes the following FELASA packages (based on FELASA recommendations 2014):

| **FELASA-Package** | | |
|---|---|---|
| FELASA 2014 Quarterly Bacteriology Profile | Includes: fur PCR - feces PCR (excl. Helicobacter) - pharynx bacteriology - blood serology | Optional: Feces Helicobacter PCR |
| FELASA 2014 Quarterly PCR Profile | Includes: fur PCR - feces PCR (excl. Helicobacter) - pharynx PCR - blood serology | |
| FELASA 2014 Yearly Bacteriology Profile | Includes: fur PCR - feces PCR (excl. Helicobacter) - pharynx bacteriology - blood serology | |
| FELASA 2014 Yearly PCR Profile | Includes: fur PCR - feces PCR (excl. Helicobacter) - pharynx PCR - blood serology | |

Additional or single analyses are also possible:

| **Single analyses (examples)** | | | |
|---|---|---|---|
| pharynx bacteriology | pharynx PCR (quarterly) | pharynx PCR (yearly) | fur PCR (ectoparasites) |
| feces PCR (protozoa) | feces PCR (spironucleus) | feces PCR (Helicob. with diff.) | feces PCR (Helicob., no diff.) |
| feces PCR (helminths) | feces bacteriology | blood serology (quarterly) | blood serology (yearly) |

The PCR is an established, fast and reliable method for the detection of pathogenes. With PCR, defined parts of DNA or RNA are detected. Therefore, the existence of specific microorganisms can be confirmed or excluded. It also means that this technique can detect only what we are actively looking for. Compared to that, methods like classical bacteriology provide the possibility to find and differentiate also further bacteria which grow on the plates. This may give a more comprehensive overview about the microbial status. Depending on the needs of our customers we are able to provide both methods for the analysis of pharynx swabs in the quarterly as well as yearly FELASA package.

**The complete content of analyses in the FELASA packages is summarized in the following table (incl. Helicobacter):**

| FELASA 2014 Quarterly Bacteriology Profile | | FELASA 2014 Quarterly PCR Profile | | FELASA 2014 Yearly Bacteriology Profile | | FELASA 2014 Yearly PCR Profile | |
|---|---|---|---|---|---|---|---|
| **Fur PCR** | | **Fur PCR** | | **Fur PCR** | | **Fur PCR** | |
| Myocoptes musculinus | PCR | Myocoptes musculinus | PCR | Myocoptes musculinus | PCR | Myocoptes musculinus | PCR |
| Radfordia/Myobia | PCR | Radfordia/Myobia | PCR | Radfordia/Myobia | PCR | Radfordia/Myobia | PCR |
| **Feces PCR** | | **Feces PCR** | | **Feces PCR** | | **Feces PCR** | |
| Helicobacter spp. | PCR | Helicobacter spp. | PCR | Helicobacter spp. | PCR | Helicobacter spp. | PCR |
| Entamoeba muris | PCR | Entamoeba muris | PCR | Entamoeba muris | PCR | Entamoeba muris | PCR |
| Chilomastix sp. | PCR | Chilomastix sp. | PCR | Chilomastix sp. | PCR | Chilomastix sp. | PCR |
| Spironucleus muris | PCR | Spironucleus muris | PCR | Spironucleus muris | PCR | Spironucleus muris | PCR |
| Trichomonas spp. | PCR | Trichomonas spp. | PCR | Trichomonas spp. | PCR | Trichomonas spp. | PCR |
| Giardia spp. | PCR | Giardia spp. | PCR | Giardia spp. | PCR | Giardia spp. | PCR |
| Syphacia spp. | PCR | Syphacia spp. | PCR | Syphacia spp. | PCR | Syphacia spp. | PCR |
| Aspiculuris tetraptera | PCR | Aspiculuris tetraptera | PCR | Aspiculuris tetraptera | PCR | Aspiculuris tetraptera | PCR |
| | | | | Citrobacter rodentium | PCR | Citrobacter rodentium | PCR |
| | | | | Salmonella sp. | PCR | Salmonella sp. | PCR |
| **Pharynx Bact. Swab*** | | **Pharynx PCR Swab** | | **Pharynx Bact. Swab*** | | **Pharynx PCR Swab** | |
| Pasteurellaceae | Culture | Pasteurellaceae | PCR | Pasteurellaceae | Culture | Pasteurellaceae | PCR |
| Streptococcus pneumoniae | Culture | Streptococcus pneumoniae | PCR | Streptococcus pneumoniae | Culture | Streptococcus pneumoniae | PCR |
| β-haemolytic Streptococci (not group D) | Culture | Streptococcus pyogenes | PCR | β-haemolytic Streptococci (not group D) | Culture | Streptococcus pyogenes | PCR |
| | | Streptococcus agalactiae | PCR | Corynebacterium kutscheri | Culture | Streptococcus agalactiae | PCR |
| | | Streptococcus dysgalactiae ssp. | PCR | | | Streptococcus dysgalactiae ssp. | PCR |
| | | | | | | Corynebacterium kutscheri | PCR |
| **Blood DBS** | | **Blood DBS** | | **Blood DBS** | | **Blood DBS** | |
| Mouse rota virus | Sero | Mouse rota virus | Sero | Mouse rota virus | Sero | Mouse rota virus | Sero |
| Mouse hepatitis virus | Sero | Mouse hepatitis virus | Sero | Mouse hepatitis virus | Sero | Mouse hepatitis virus | Sero |
| Murine norovirus | Sero | Murine norovirus | Sero | Murine norovirus | Sero | Murine norovirus | Sero |
| Mouse parvo virus | Sero | Mouse parvo virus | Sero | Mouse parvo virus | Sero | Mouse parvo virus | Sero |
| Minute virus of mice | Sero | Minute virus of mice | Sero | Minute virus of mice | Sero | Minute virus of mice | Sero |
| Theiler's murine encepha-lomyelitis virus | Sero | Theiler's murine encephalo-myelitis virus | Sero | Theiler's murine encephalo-myelitis virus | Sero | Theiler's murine encephalo-myelitis virus | Sero |
| | | | | Ectromelia virus | Sero | Ectromelia virus | Sero |
| | | | | Lymphocyt. choriomenin-gitis virus | Sero | Lymphocyt. choriomenin-gitis virus | Sero |
| | | | | Mouse adenovirus, FL | Sero | Mouse adenovirus, FL | Sero |
| | | | | Mouse adenovirus, K87 | Sero | Mouse adenovirus, K87 | Sero |
| | | | | Pneumonia virus of mice | Sero | Pneumonia virus of mice | Sero |
| | | | | Reovirus type 3 | Sero | Reovirus type 3 | Sero |
| | | | | Sendai virus | Sero | Sendai virus | Sero |
| | | | | Mycoplasma pulmonis | Sero | Mycoplasma pulmonis | Sero |
| | | | | Clostridium piliforme | Sero | Clostridium piliforme | Sero |
| | | | | Streptobacillus moniliformis | Sero | Streptobacillus moniliformis | Sero |

**Abbreviations**

Bact. = bacteriology

DBS = dry blood spot

PCR = polymerase chain reaction

Sero = serology

*all grown microbes will be reported

In case of questions or for customized packages, please do not hesitate to contact us.

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