

Animal Species Identification / Risk Material / BSE

Within the meat production process in the slaughterhouse, from minced meat and processed meat up to meat containing feed, the species identification might not always be clear.

Animal species detection

The aspects of animal species detection might be categorized into three application groups:

- **Product falsification**
Product falsification of cheaper undeclared meat might be identified qualitatively and quantitatively using the ANIMAL ID and Quant kits.
- **Species detection**
In some cases, especially for religious aspects as kosher or halal with a zero tolerance strategy, highly sensitive qualitative detection is required. The Animal ID Pork SENS PLUS kit enables an extremely sensitive detection.

- **Feed**

Due to the ending of the BSE crisis, it might be expected that meat and bone meal (MBM) will be used to feed animals again. However, any feeding to ruminants should be avoided.

The stable DNA is an excellent marker for animal identification and real-time PCR might be used even for highly processed food and feed samples.

Prions

Prion proteins might be detected by immunological methods. The antibodies L42 (bovine) and P4 (sheep) are well established antibodies for Western Blot or immune histology.



SureFood® PREP Basic



Qualitative real-time PCR



Real-time PCR – Qualitative DNA Detection

Product	Description	No. of Tests/Amount	Art. No.
DNA preparation			
SureFood® PREP Basic	DNA preparation of food and feed	100 preparations	S1052
Multiplex			
SureFood® ANIMAL ID 4plex Beef/Sheep/Goat + IAAC*	Qualitative DNA detection Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6121
Farm Animals			
SureFood® ANIMAL ID Beef	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6013
SureFood® ANIMAL ID Beef IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6113
SureFood® ANIMAL ID Horse	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6018
SureFood® ANIMAL ID Horse & Donkey IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6119
SureFood® ANIMAL ID Pork	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6014
SureFood® ANIMAL ID Pork SENS PLUS	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6017
SureFood® ANIMAL ID Pork IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6114
SureFood® ANIMAL ID Waterbuffalo IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6117
Poultry			
SureFood® ANIMAL ID Chicken	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6015
SureFood® ANIMAL ID Chicken IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6115
SureFood® ANIMAL ID Turkey	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6016
SureFood® ANIMAL ID Turkey IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6116
Other Species			
SureFood® ANIMAL ID Black/White Halibut	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6201
SureFood® ANIMAL ID Cat & Dog	Detection limit: 0.5 % depending on matrix and DNA preparation	2 x 50 reactions	S6012
SureFood® ANIMAL ID Rabbit IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6120

* IAAC = Internal Amplification Animal Control.

The IAAC kits require a 2-channel real-time thermocycler (FAM und VIC / HEX) and has been validated on Bio-Rad CFX96, Qiagen, Rotor-Gene, Roche LC480 and Stratagene Mx3005P.

Exception: S6119 requires a 3-channel and S6121 a 4-channel device.



Real-time PCR – Quantitative DNA Detection

Product	Description	No. of Tests/Amount	Art. No.
Farm Animals			
SureFood® ANIMAL QUANT Beef	Detection limit: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1010
SureFood® ANIMAL QUANT Equus	Detection of horse, donkey and zebra Detection limit: 0.05 % depending on matrix and DNA preparation	2 x 50 reactions**	S1016
SureFood® ANIMAL QUANT Pork	Detection limit: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1011
Poultry			
SureFood® ANIMAL QUANT Chicken	Detection limit: 0.01 % depending on matrix and DNA preparation	2 x 50 reactions**	S1014

** 1 x 50 reactions for the detection of the reference gene.

Risk Material

ELISA Microtiter Plates			
RIDASCREEN® Risk Material	Enzyme immunoassay for quantitative analysis of risk material (CNS) in processed meat and meat products Detection limit: < 0.2 % for CNS tissue	96 determinations Incubation time: 1 hr	R6701
RIDASCREEN® Risk Material 10/5	Enzyme immunoassay for qualitative analysis of risk material (CNS) in raw meat, meat products and on contaminated surfaces Detection limit: < 0.1 % for CNS tissue	96 determinations Incubation time: 15 min	R6703

BSE

RIDA® mAb L42	Monoclonal Antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	23 µg	R8005
RIDA® mAb P4	Monoclonal Antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	1 mg	R8007
RIDA® mAb P4	Monoclonal Antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	0.1 mg	R8008