



# Identification of animal species/risk material/BSE

Due to the increasing complexity of meat supply chains, and prevalent product falsifications, species identification testing has become a cornerstone of food quality assurance and fraud prevention. Real-time PCR and ELISA deliver robust, reliable results even from processed food and feed samples.

## Animal species detection

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

### • Product falsification

Product falsification with cheaper undeclared meat might be identified qualitatively using the ANIMAL ID and ELISA-TEK™ and quantitatively using the ANIMAL QUANT kits.

### • Species detection

In some cases, especially for religious aspects such 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.

### • Fish species detection

According to the EC 1379/2013 regulation fish products must be labelled with the common trade name and the scientific name. Fish ID real-time kits are available for the most important fish species.

### • 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, feeding to ruminants should be avoided.

Due to its stability, DNA is an excellent marker for animal identification. Real-time PCR can be used even for processed food and feed samples, with the exception of some highly processed products such as gelatin. The new product line with Internal Amplification and Animal Control (IAAC) has higher sensitivity and includes an amplification and extraction control.



## SureFood® PREP Basic

- Efficient, streamlined DNA sample preparation from food and feed matrices
- Highly purified DNA



## SureFood® ANIMAL ID

- Identification and quantification
- Multiplex assays
- Internal amplification and animal control as extraction control



Animal species indentification/risk material/BSE

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
SureFast® Animal+Plant Control 3plex	Extraction control for plant or animal matrix including internal control DNA (ICD)	100 reactions	F4053
Multiplex screening			
SureFood® ANIMAL ID 4plex Beef/Sheep/Goat + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6121
SureFood® ANIMAL ID 4plex Pork/Chicken/Turkey + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6123
SureFood® ANIMAL ID 4plex Beef/Horse/Pork + IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6126
SureFood® ANIMAL ID 3plex Water Buffalo/Beef + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6130
SureFood® ANIMAL ID 4plex Camel/Horse/Donkey + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6131
SureFood® ANIMAL ID Horse & Donkey IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6119
SureFood® ANIMAL ID Cat & Dog IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6112
Farm animals			
SureFood® ANIMAL ID Beef IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6113
SureFood® ANIMAL ID Camel IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6124
SureFood® ANIMAL ID Horse IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6118
SureFood® ANIMAL ID Pork SENS PLUS	Detection limit: ≤ 0.0005 % depending on matrix and DNA preparation	100 reactions	S6017
SureFood® ANIMAL ID Pork IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6114
SureFood® ANIMAL ID Water Buffalo IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6117
Poultry			
SureFood® ANIMAL ID Chicken IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6115
SureFood® ANIMAL ID Turkey IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6116
SureFood® ANIMAL ID Poultry IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6125
Other species			
SureFood® ANIMAL ID Rabbit IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6120

\* IAAC = Internal Amplification and Animal Control.



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Real-time PCR – quantitative DNA detection

Product	Description	No. of tests/amount	Art. No.
Farm animals			
SureFood® ANIMAL QUANT Beef	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1010
SureFood® ANIMAL QUANT Equus	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S1016
SureFood® ANIMAL QUANT Pork	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1011
Poultry			
SureFood® ANIMAL QUANT Chicken	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S1014

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



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SureFood® FISH ID\*\*

Product	Description	No. of tests/amount	Art. No.
<b>Fish – tuna</b>			
SureFood® FISH ID Katsuwonus pelamis IAAC*	Detection of skipjack tuna; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6314
<b>Fish – cod-like</b>			
SureFood® FISH ID Gadus chalcogrammus IAAC*	Detection of Alaska pollock; Detection limit: 5 % depending on matrix and DNA preparation	50 reactions	S6313
SureFood® FISH ID Gadus macrocephalus IAAC*	Detection of pacific cod; Detection limit: 2 % depending on matrix and DNA preparation	50 reactions	S6308
SureFood® FISH ID Gadus morhua IAAC*	Detection of atlantic cod; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6310
SureFood® FISH ID Melanogrammus aeglefinus IAAC*	Detection of haddock; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6307
SureFood® FISH ID Merlangius merlangus IAAC*	Detection of whiting; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6312
SureFood® FISH ID Merluccius merluccius IAAC*	Detection of european hake; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6311
SureFood® FISH ID Pollachius virens IAAC*	Detection of pollock/saithe; Detection limit: 2 % depending on matrix and DNA preparation	50 reactions	S6309
<b>Fish – salmon-like</b>			
SureFood® FISH ID Oncorhynchus gorboscha IAAC*	Detection of humpback salmon; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6303
SureFood® FISH ID Oncorhynchus mykiss IAAC*	Detection of rainbow trout; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6302
SureFood® FISH ID Oncorhynchus nerka IAAC*	Detection of red salmon; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6304
SureFood® FISH ID Oncorhynchus tshawytscha IAAC*	Detection of chinook salmon; Detection limit: 2 % depending on matrix and DNA preparation	50 reactions	S6301
SureFood® FISH ID Salmo salar IAAC*	Detection of atlantic salmon; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6306
SureFood® FISH ID Salmo trutta IAAC*	Detection of trout; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6305
<b>Fish – multiplex</b>			
SureFood® FISH ID 3plex Halibut IAAC*	Differentiation of white (Hippoglossus hippoglossus) and black halibut (Reinhardtius hippoglossoides); Detection limit: 1 %, depending on matrix and DNA preparation	50 reactions	S6201

\* IAAC = Internal Amplification and Animal Control.  
\*\* All Fish ID kits are R&D versions.



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ELISA-based species identification in food and feed

Product	Description	No. of tests/amount	Art. No.
<b>Raw meat species kits</b>			
ELISA-TEK™ Raw Mixed Species Kit	Assay for the positive identification of species content (customized) in raw samples	96 determinations Incubation time 50 minutes	510501
ELISA-TEK™ Raw 3 Species Kit	Assay for the positive identification of species content (cow, pig, poultry) in raw samples	32 determinations per species Incubation time 50 minutes	510503
ELISA-TEK™ Raw 4 Species Kit	Assay for the positive identification of species content (cow, pig, poultry sheep) in raw samples	24 determinations per species Incubation time 50 minutes	510504
ELISA-TEK™ Raw Beef Kit	Assay for the positive identification of species content (beef) in raw samples	96 determinations Incubation time 50 minutes	510511
ELISA-TEK™ Raw Pork Kit	Assay for the positive identification of species content (pork) in raw samples	96 determinations Incubation time 50 minutes	510521
ELISA-TEK™ Raw Poultry Kit	Assay for the positive identification of species content (poultry) in raw samples	96 determinations Incubation time 50 minutes	510531
ELISA-TEK™ Raw Sheep Kit	Assay for the positive identification of species content (sheep) in raw samples	96 determinations Incubation time 50 minutes	510541
ELISA-TEK™ Raw Horse Kit	Assay for the positive identification of species content (horse) in raw samples	96 determinations Incubation time 50 minutes	510551
<b>Cooked meat species kits</b>			
ELISA-TEK™ Cooked Meat Mixed Species Kit	Assay for the positive identification of species content (customized) in cooked samples	96 determinations Incubation time 3 h	510601
ELISA-TEK™ Cooked Meat 3 Species Kit	Assay for the positive identification of species content (beef, pork, poultry) in cooked samples	32 determinations per species Incubation time 3 h	510603
ELISA-TEK™ Cooked Meat 4 Species Kit	Assay for the positive identification of species content (beef, pork, poultry, sheep) in cooked samples	24 determinations per species Incubation time 3 h	510604
ELISA-TEK™ Cooked Meat Beef Kit	Assay for the positive identification of species content (beef) in cooked samples	96 determinations Incubation time 3 h	510611
ELISA-TEK™ Cooked Meat Pork Kit	Assay for the positive identification of species content (pork) in cooked samples	96 determinations Incubation time 3 h	510621
ELISA-TEK™ Cooked Meat Poultry Kit	Assay for the positive identification of species content (poultry) in cooked samples	96 determinations Incubation time 3 h	510631
ELISA-TEK™ Cooked Meat Sheep Kit	Assay for the positive identification of species content (sheep) in cooked samples	96 determinations Incubation time 3 h	510641
ELISA-TEK™ Cooked Meat Horse Kit	Assay for the positive identification of species content (horse) in cooked samples	96 determinations Incubation time 3 h	510651
ELISA-TEK™ Cooked Meat Deer Kit	Assay for the positive identification of species content (deer) in cooked samples	96 determinations Incubation time 3 h	510661
<b>Meat and bone meal kits</b>			
MELISA-TEK™ Meat Species Ruminant Kit	Assay for the positive identification of species content (ruminant) in meat and bone meals, animals feeds, and cooked and uncooked foods	96 determinations Incubation time 1 h 20	510311
MELISA-TEK™ Meat Species Pork Kit	Assay for the positive identification of species content (porcine) in meat and bone meals, animals feeds, and cooked and uncooked foods	96 determinations Incubation time 1 h 20	510321
MELISA-TEK™ High Sensitivity Extraction Kit	This kit provides a protocol and all materials to improve the sensitivity of the MELISA-TEK™ RUMINANT assay		510391
<b>Pangasius</b>			
EZ PANGASIUS™ Pangasius Rapid Kit	Assay for the positive identification of species content (pangasius) in a sample	10 test strips	510EZP



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Risk material

Product	Description	No. of tests/amount	Art. No.
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

BSE/antibody			
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