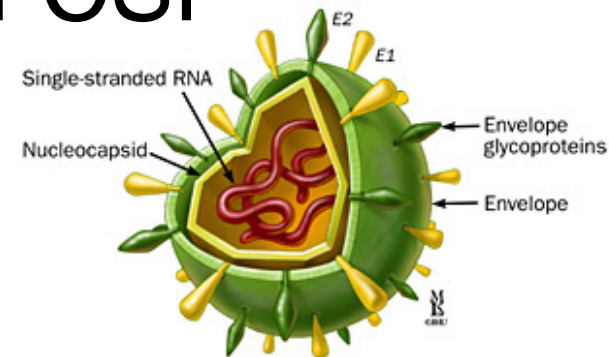


# AHAW Panel Control and Eradication of CSF in wild boar



# Classical Swine Fever Virus

- Virus family FLAVIVIRIDAE, genus pestivirus
- Pestivirus:
  - Small enveloped single stranded RNA virus
  - CSFV, BVDV, BDV
- CSFV infects only pigs and wild boar
- Pigs and wild boar also susceptible for BVDV and BDV

## CSF:

- Recurring infection of domestic pigs in Europe
- Changing clinical picture
  - Shifting from per acute to even sub clinical
- Non vaccination policy in domestic pigs, vaccination possible in wild boar

## Wild Boar

- Increasing of the population in Europe

- Modified Live virus vaccine: C-strain
  - Rapid response post vaccination immunity
  - No serological differentiation with infection
  - Oral application possible
- Baits (C-strain):
  - Less suitable for young animals
- Marker vaccine: sub unit
  - Differentiation possible but:
    - No oral application
    - Accompanied diagnostic assays can be improved

*To provide an opinion on the efficacy of the available surveillance, hunting and vaccination measures to control and eradicate CSF in feral pig populations, considering the possible use of new diagnostic tests and vaccines*

## Hunting



## Oral vaccination with C-strain



**Different  
strategies**



When? Before or after outbreak?

Where? Which region? Size?

Frequency? Once / multiple

## Data on:

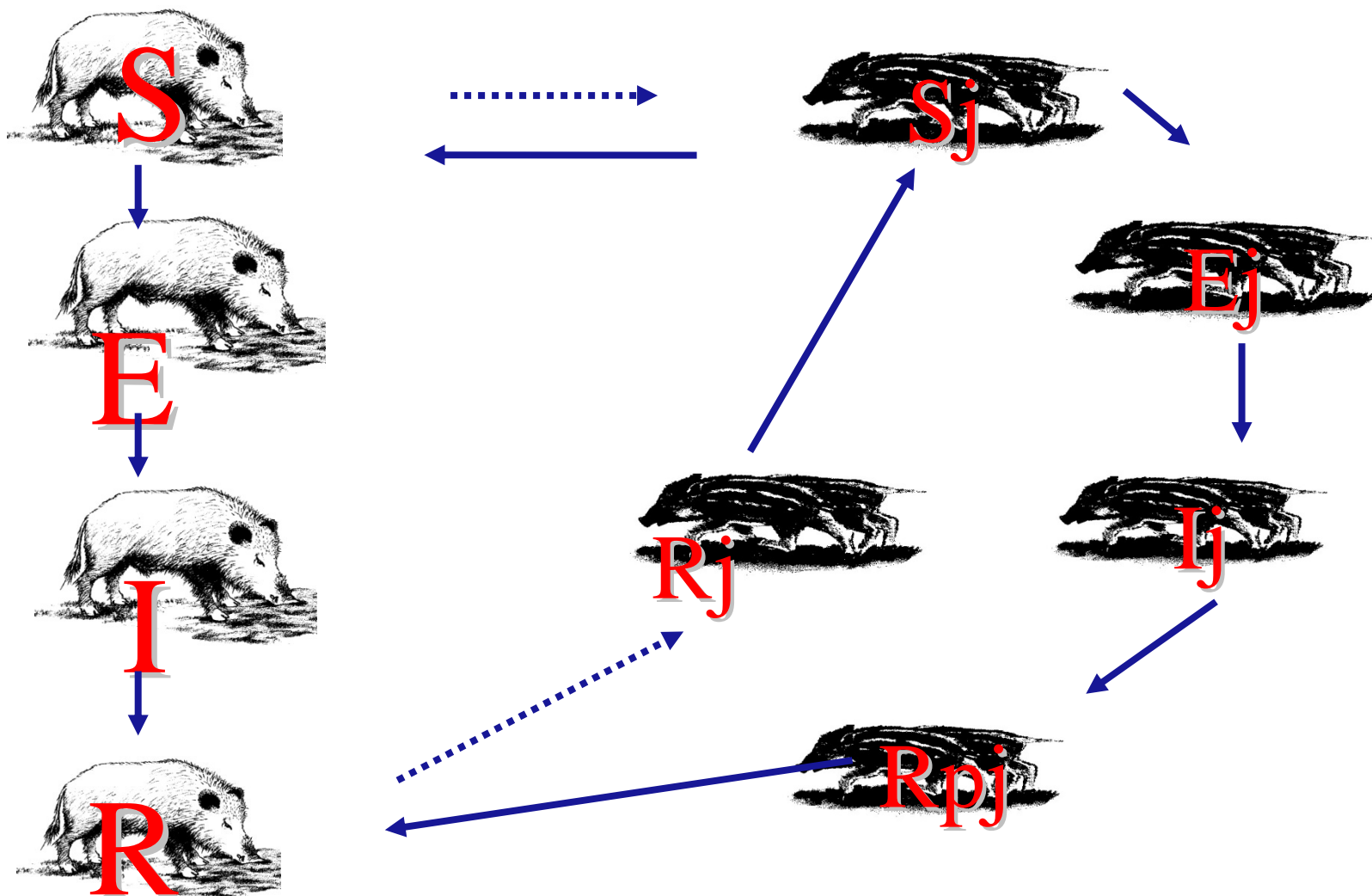
- the EU wild boar population,
- recent/current CSF outbreaks and
- control measures applied, including vaccination and hunting practices.

## Sources:

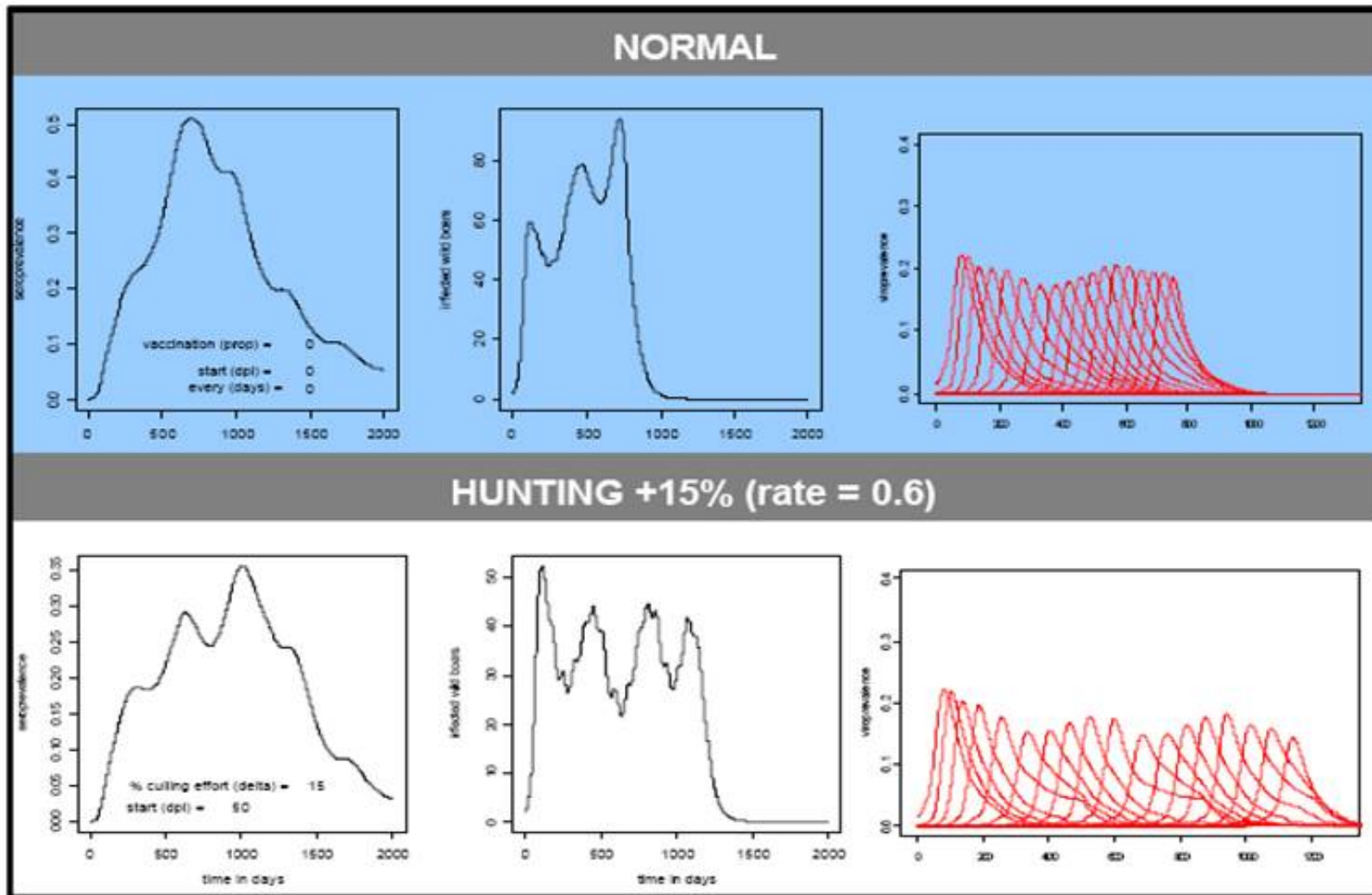
- through a questionnaire distributed to all MS through EFSA focal points
- information extracted from the CSF wild boar EU database
- data from published articles and from experts' experience

- Not harmonised strategy for the surveillance of CSF in wild boar
- Difficult to make inferences from the existing data
- Large variability existed in the data collection per MS or even per region
- Reluctance on the provision and sharing of data by some MS

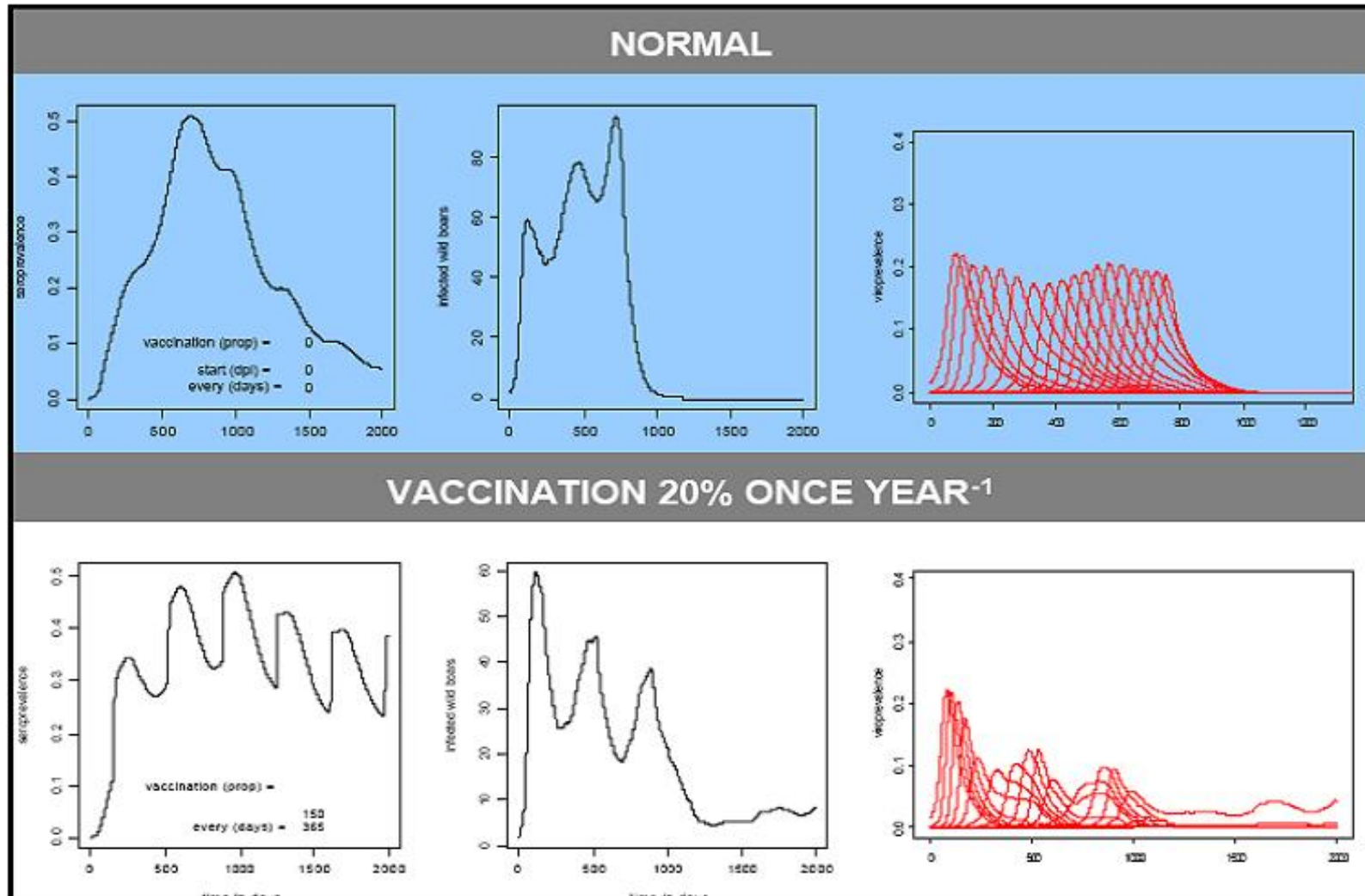
# SEIR - Structure



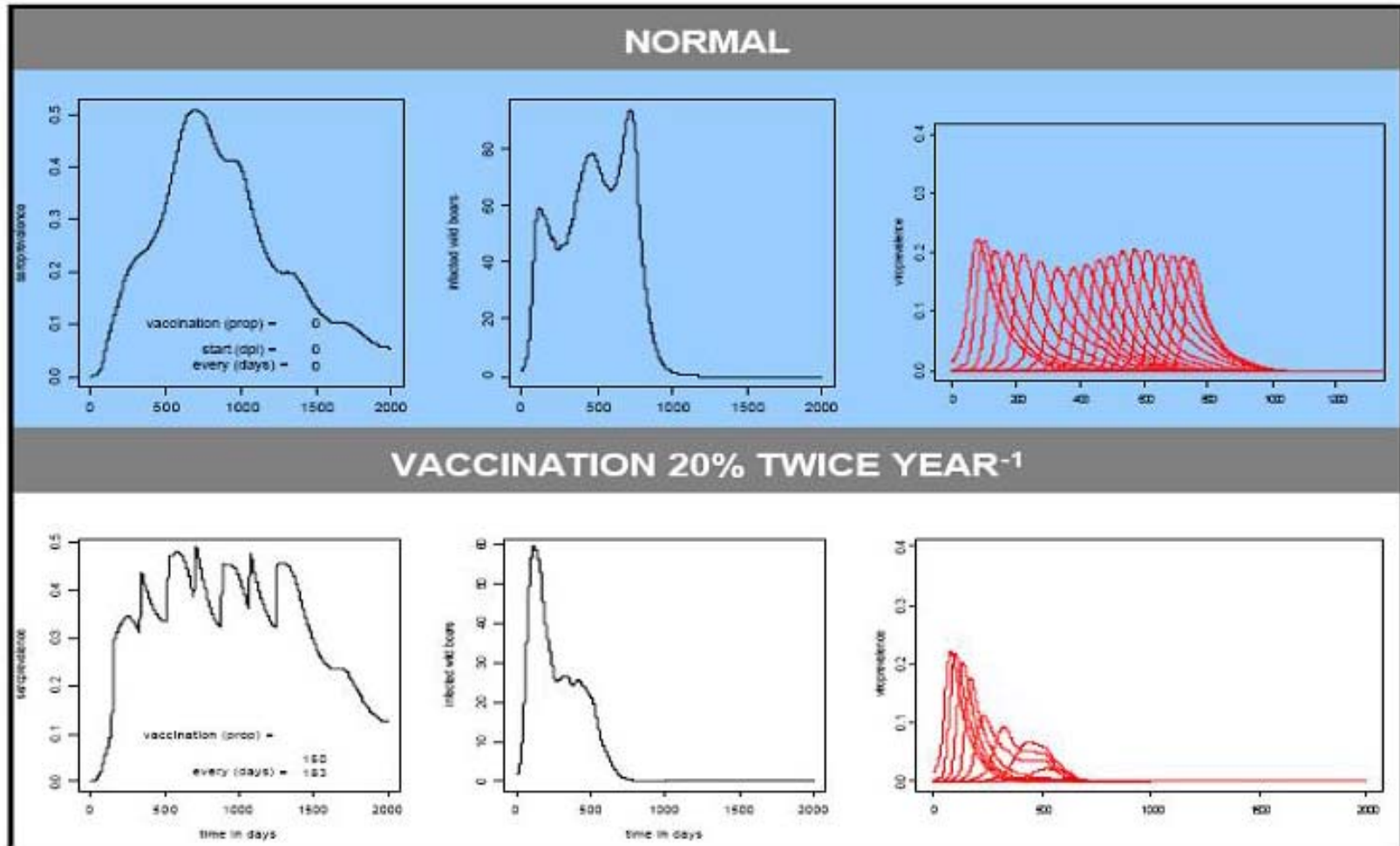
# Management: Hunting



# Management: Vaccination (I)



# Management: Vaccination (II)



- Disease will fade out without any additional control measures in small populations (between 1000 and 1500)
- Hunting is not efficient for CSF control and should not exceed the normal 45% per year
- Hunting is currently needed for sampling
- Random interaction Hunting + Vaccination:
  - ➡ Endemic evolution in 4% of the cases in small populations
  - Endemic evolution in 10% of the cases in large populations

## Vaccination:

- Increases population immunity progressively
- The maximum population immunity is only reached after three double campaigns
- One isolated campaign cannot increase population immunity adequately to control CSF and might even aggravate the persistence of CSF
- Mainly prevents the spread of the infection in neighboring vaccinated patches
- Promotes long-term eradication through a progressive reduction of virus transmission to neighboring areas

## Vaccination (cont.):

- Always reduces the epidemic peak (number of infected animals/time)
- Endemic evolution of infection may occur when a low rate of vaccination is achieved
- In both infected and not yet infected areas, reaching a minimum target of 40 % of susceptible animals is necessary to obtain a positive control effect:
  - below 20%: will increase probability of endemic stability
  - above 60%: will always eradicate the infection

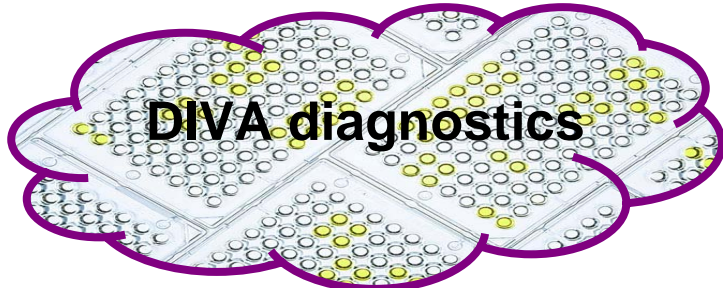
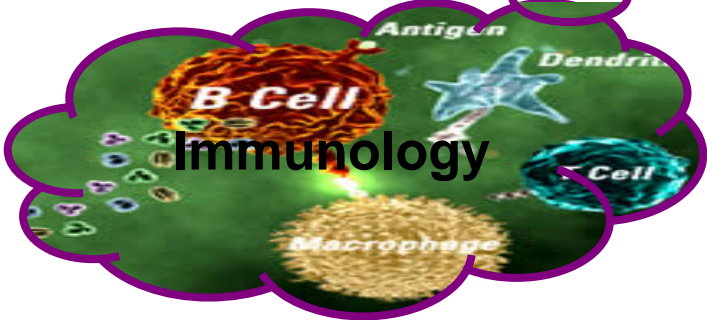
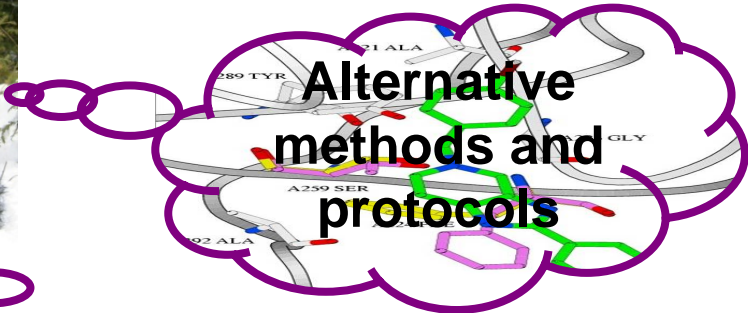
# **New FP7 project**

**Improve tools and strategies for the  
prevention and control  
of Classical Swine Fever**

**CSFV\_goDIVA**

**<http://www.csfvaccine.org/>**

# CSFV\_goDIVA: OverviewTasks





**Epidemiology**

**Task  
B**



- Database of back yard pigs
- Modelling:
  - CSF in the back yard pigs
  - Risk-assessment transmission from back yard pigs to other "local" pigs
  - Virtual testing of sampling and surveillance designs
- Evaluation of the surveillance strategies
- Phylogenetic analyses with partial sequences
- Role of CSF virus reservoirs ?
- Alternative strategies: performance?