

Rabies Management in Thailand

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Thailand



MOU

on the implementation
of One Health
Initiatives for National
Health Security, 2016





Ministry of Agriculture and Cooperatives

Department of Livestock Development

Director General

Senior Veterinary and Livestock Experts

**Deputy DG
(Animal Health)**

**Bureau of Disease
Control and
Veterinary Services**

**Bureau of
Veterinary
Biologics**

**National Institute
of Animal Health**

**Division of Animal
Inspection and
Quarantine**

**Deputy DG
(Food Safety &
International Cooperation)**

**Bureau of Quality
Control of Livestock
Products**

**Bureau of Livestock
Standards and
Certification**

**Division of
International
Livestock Cooperation**

**Division of Animal
Feed and Veterinary
Products Control**

**Deputy DG
(Animal Production)**

**Bureau of Livestock
Extension and
Development**

**Bureau of
Biotechnology in
Livestock Production**

**Bureau of Animal
Nutrition
Development**

**Bureau of Animal
Breeding
Development**

**Division of Royal
Initiatives and
Special Projects**

**Deputy DG
(Administration)**

**Administrative
Development Unit**

Internal Auditing Unit

Division of Planning

Division of Finance

Division of Personnel

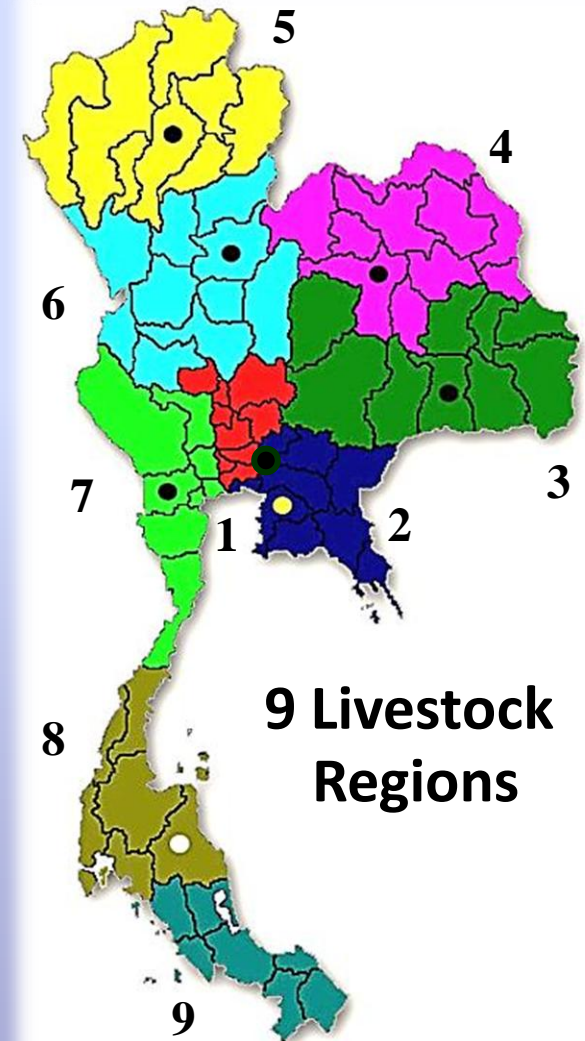
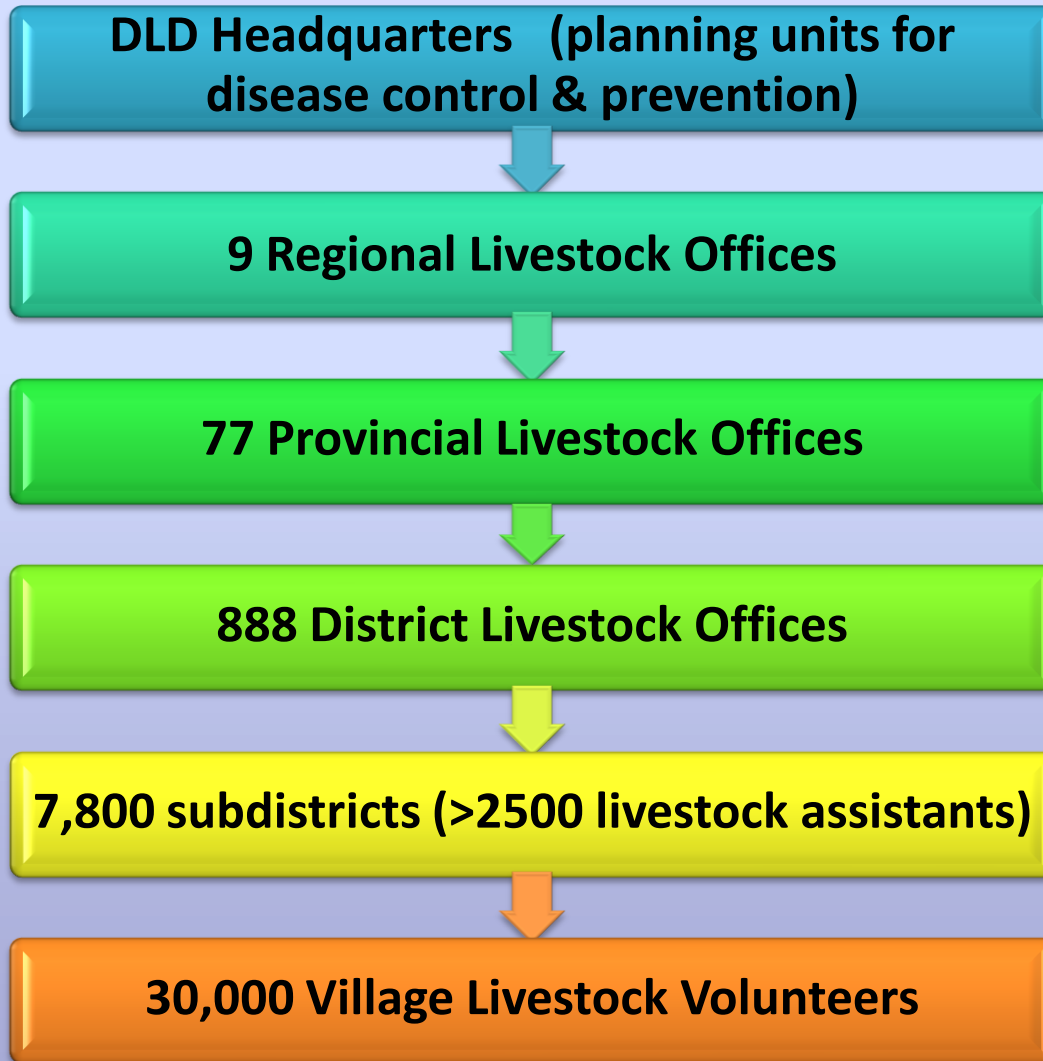
Bureau of Legal Affairs

**Office of Department
Secretary**

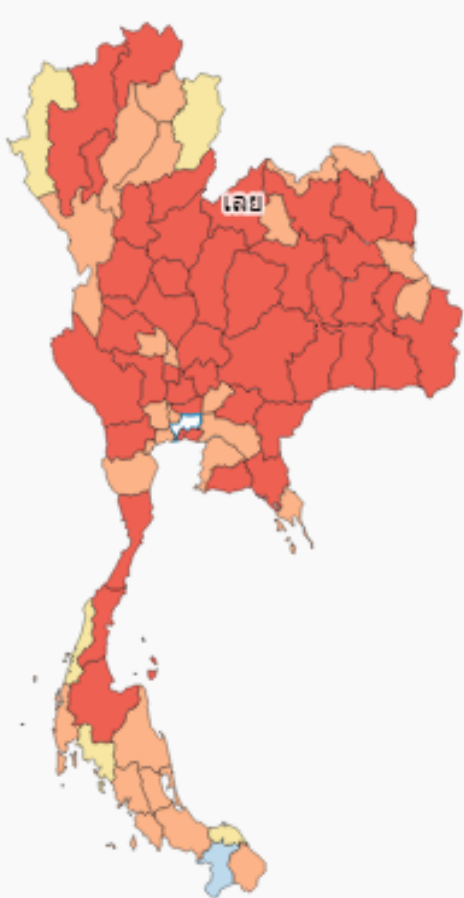
**Information
Technology Centre**



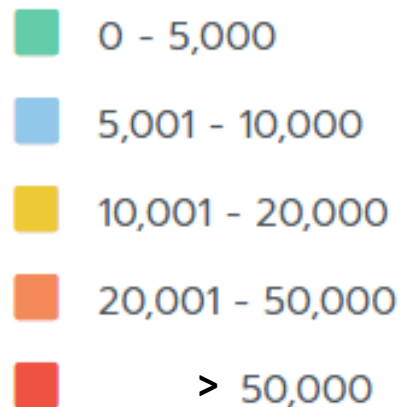
Chain of Command of Livestock Administration



Dogs and Cats Population



Number of animals



Total



5,529,711

With owners (99.76%) 5,516,466
 Without owners (0.24%) 13,245



Dog

With owners

4,208,276

Without owners

8,477



Cat

With owners

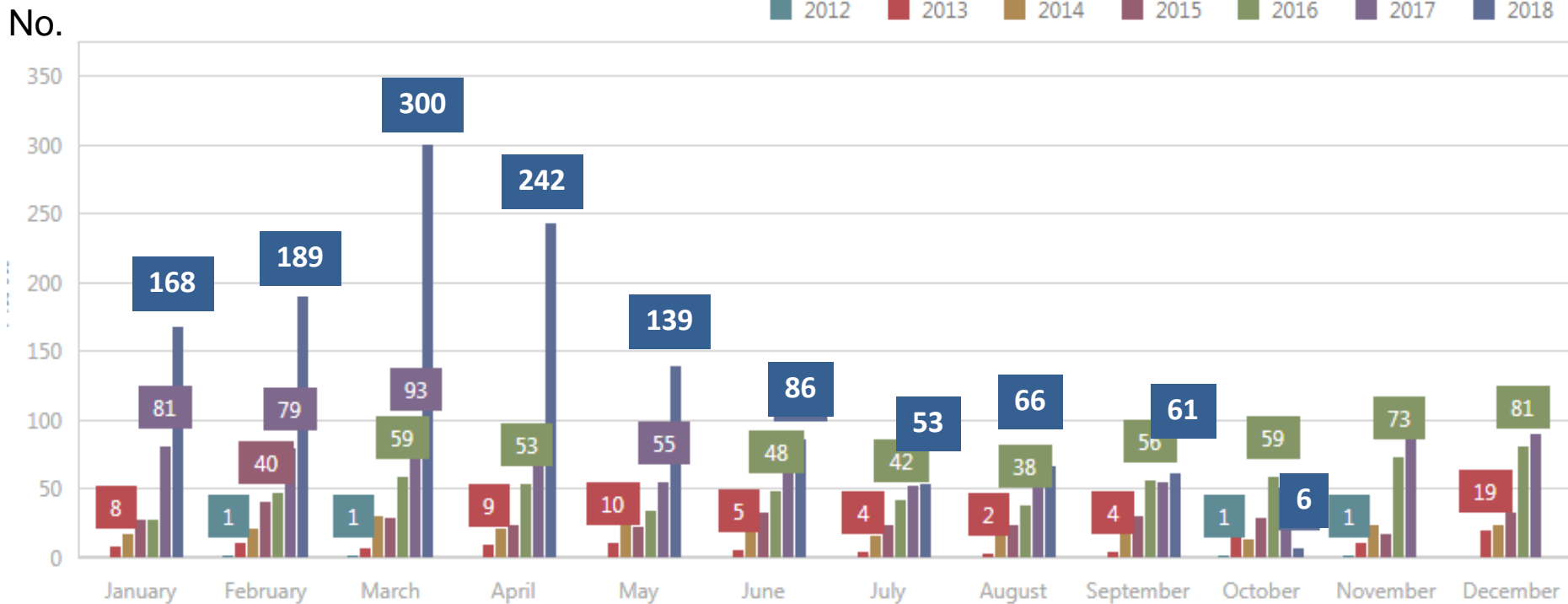
1,308,190

Without owners

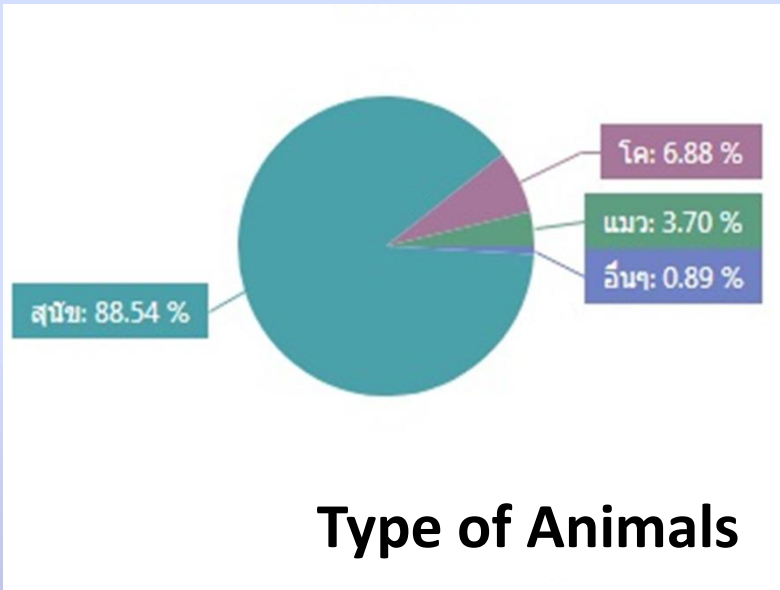
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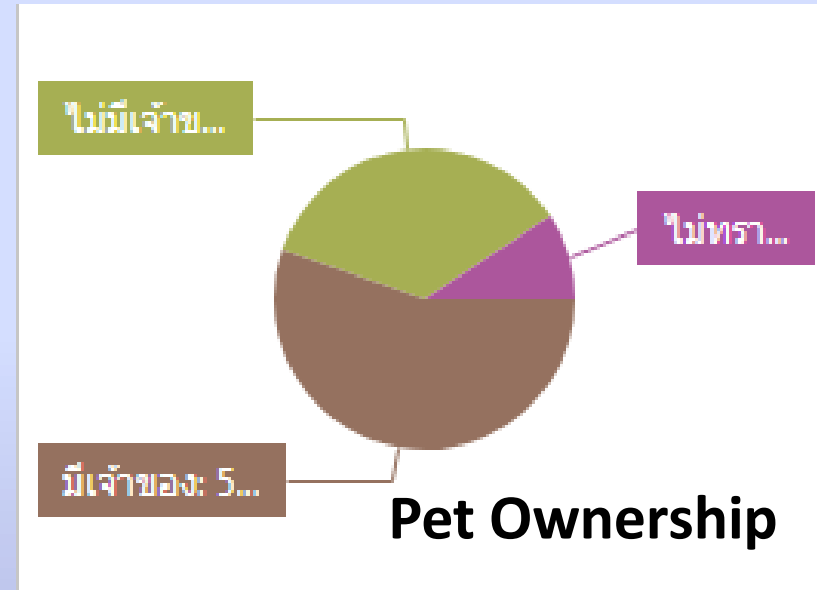
Positive Rabies Cases



Rabid cases in Animals



- Dog 88.21 %
- Cattle 7.11 %
- Cat 3.67 %
- Others 1.01%



- With owners 55.3 %
- Without owners 35.42 %
- Unknown 9.27 %

Prevention policy on rabies

1. Survey and registration of dogs
2. Immunization: Vaccine
3. Dog population control
4. Laboratory surveillance
5. Outbreak management
6. Animal shelter



Dog population control

- Thailand has about 7 millions dog population and about 10% are stray dogs.
 - Sterilization



Controlling policy on rabies

Disease investigation conducted by human health and animal health after disease notification



- **Outbreak investigation**
- **Quarantine and control movement**
- **Ring vaccination (5 km around index cases)**
- **Collaboration with other units such as Ministry of Public Health**
- **Announcement and publication about rabies information**
- **Control dog and cat population**
- **Surveillance (6 month)**

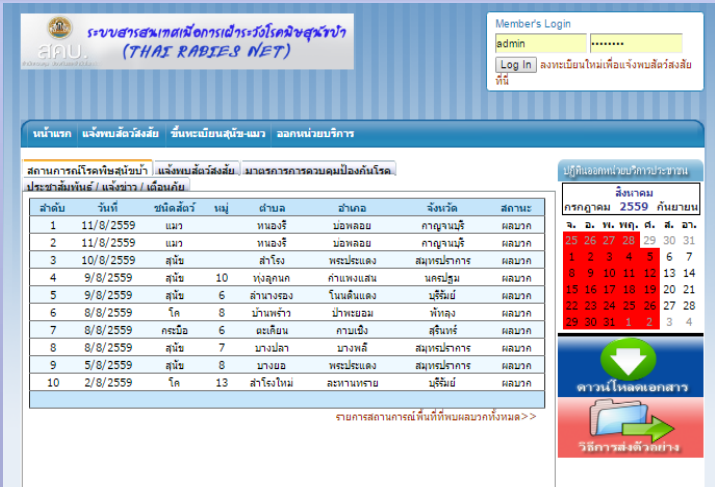
Surveillance on rabies

1. Passive Surveillance

2. Active Surveillance

- Suspected animals
- Report from network of disease notification
- Confirm rabid cases by lab.
- Report online via Thai rabies.net

- Confirm : area status
- Random : 0.01% of dog population 1 sample / 1 sub-district



ระบบสารสนเทศเพื่อการเฝ้าระวังโรคพิษสุราห์ (THAI RABIES NET)

Member's Login
admin
Log In ลงทะเบียนใหม่เพื่อแจ้งพบสัตว์สงสัยที่นี่

หน้าแรก แจ้งพบสัตว์สงสัย ขึ้นทะเบียนสุนัข-แมว ลอกหมายเลขบริการ

สถานการณ์โรคพิษสุราห์ | แจ้งพบสัตว์สงสัย | มาตรการการควบคุมป้องกันโรค | ประชาสัมพันธ์ / แจ้งข่าว / เตือนภัย

ลำดับ	วันที่	ชนิดสัตว์	อายุ	ตำบล	อำเภอ	จังหวัด	สถานะ
1	11/8/2559	แมว		หนองฮี	บ่อพลอย	กาญจนบุรี	ผลบวก
2	11/8/2559	แมว		หนองฮี	บ่อพลอย	กาญจนบุรี	ผลบวก
3	10/8/2559	สุนัข		ลำโพง	พระประแดง	สมุทรปราการ	ผลบวก
4	9/8/2559	สุนัข	10	ทุ่งลูกนก	กำแพงแสน	นครปฐม	ผลบวก
5	9/8/2559	สุนัข	6	สำนางทอง	บ้านดงแดง	บุรีรัมย์	ผลบวก
6	8/8/2559	โค	8	น้ำพริกาว	น้ำพริกาว	ทวาย	ผลบวก
7	8/8/2559	กระต๊อ	6	ตะตือม	กำแพง	สุรินทร์	ผลบวก
8	8/8/2559	สุนัข	7	บางปลาก	บางพลี	สมุทรปราการ	ผลบวก
9	5/8/2559	สุนัข	8	บางอ้อ	พระประแดง	สมุทรปราการ	ผลบวก
10	2/8/2559	โค	13	ลำโรงใหม่	ลพบุรี	บุรีรัมย์	ผลบวก

ปริมาณ (กรกฎาคม 2559 ถึงธันวาคม 2559)

จ. อ. พ. พท. ส. ส. อ.

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ดาวน์โหลดเอกสาร

วิธีการส่งตัวอย่าง

รายงานสถานการณ์พื้นที่ที่พบผลบวกทั้งหมด >>



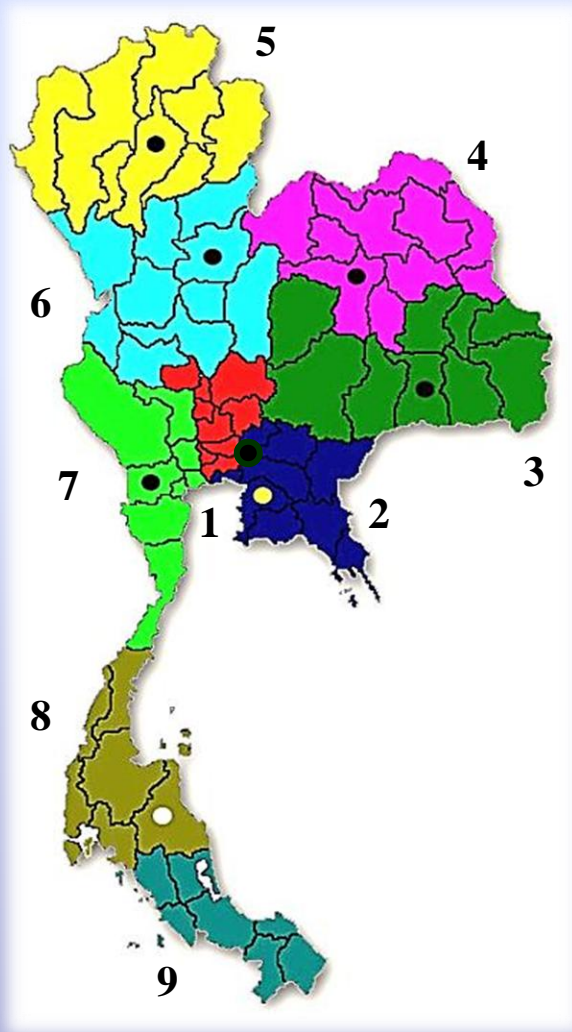


**The Strategy of Animal Free of Rabies : Human
Are Safe from the Disease Project
Under the Wish of Her Royal Highness
Princess Chulabhorn (Valayaluk)
(2017-2020)**

Strategies of Rabies Elimination



Animal Rabies Laboratory Diagnosis

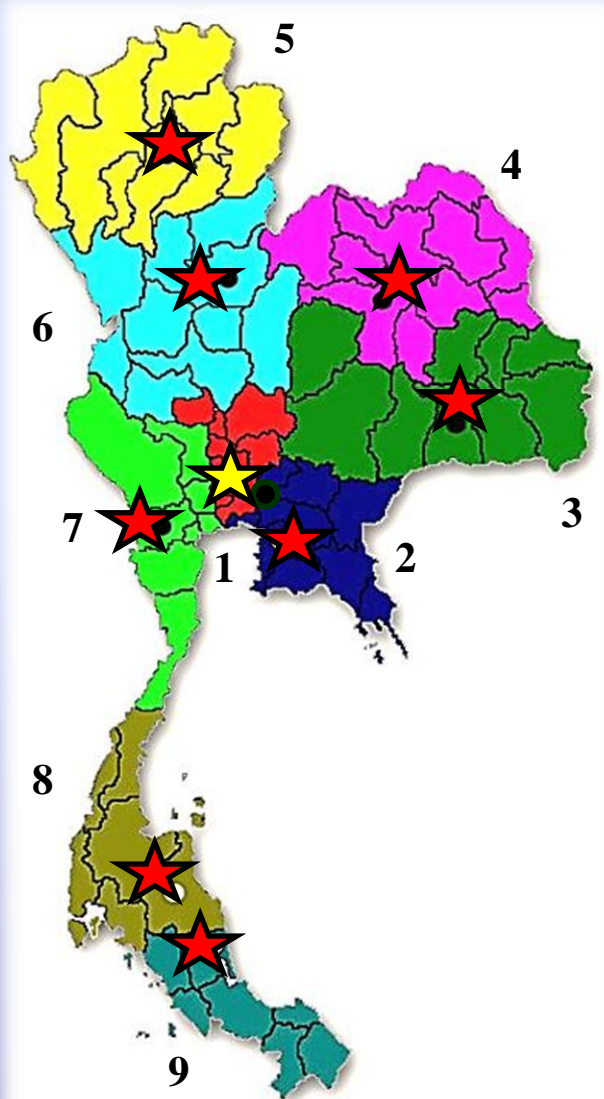


- **DLD lab.**
(national & regional lab.)
- **Queen Saowabha Memorial Institute**
- **Some University lab.**



Welcome to NIAH

DLD Laboratories



- ★ 1 National lab
- ★ 8 Regional labs
- 2 Other labs

- **Veterinary Biologics Assay Division (VBAD)**
(Pakchong, Nakhon Ratchasima)
- **Regional Reference Laboratory for
Foot and Mouth Disease in South East Asia
(RRL)** (Pakchong, Nakhon Ratchasima)

**OIE Reference Laboratory
for Brucellosis @ NIAH**

Ministry of Agriculture and Cooperatives

Department of Livestock Development

National Institute of Animal Health



Laboratory units

Pathology

Bacteriology

Virology

Parasitology

Immunology

Toxicology-Biochemistry

Leptospirosis Center

Support units

Administration

Animal Health Management

Laboratory Quality Development

Laboratory Epidemiology

Experimental Animal

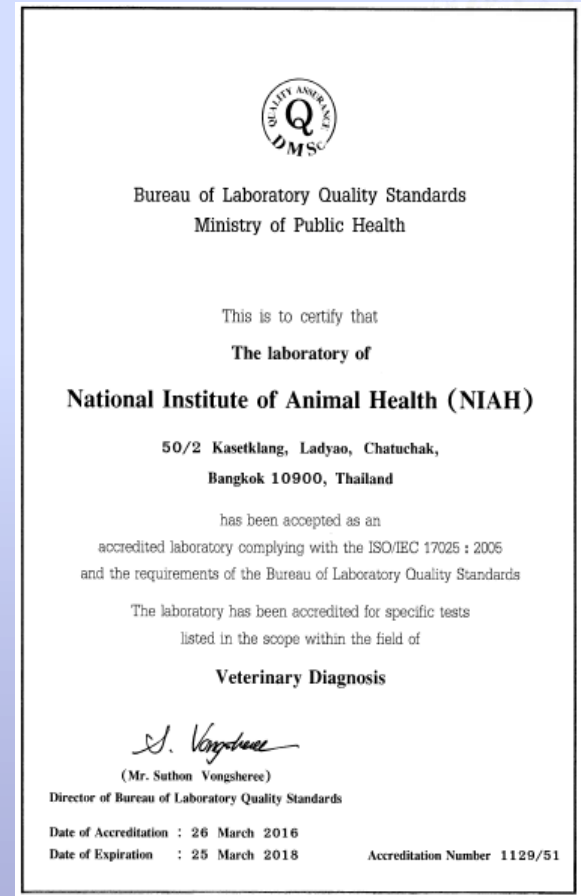
**Animal Health Research
and Innovation Promotion**

ISO/IEC 17025: 2005



- Established since 2006,
- Accredited in 2008 by
Bureau of Laboratory Quality Standards, Department of Medical Science, Ministry of Public Health

- **88 scopes accredited**
- **(NIAH:15, VRDCs:70, RRL:3)**



Facilities

- Disease Diagnosis
- Research



International Collaboration



French Agency for Food, Environmental and Occupational Health & Safety



National Institute of Animal Health, Japan



United States Department of Agriculture



Australian Animal Health Laboratory, CSIRO



NIAH, RVRDCs



Food and Agriculture Organization of the United Nations

Animal and Plant Quarantine Agency



Animal Production and Health Commission for Asia and the Pacific

Department of Disease Surveillance and Response CDC-Thailand, World Health Organization

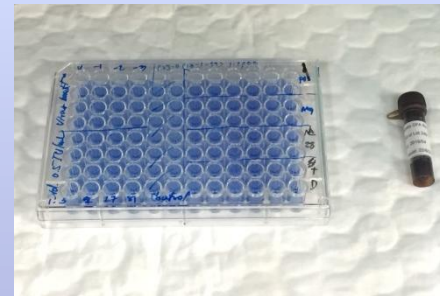
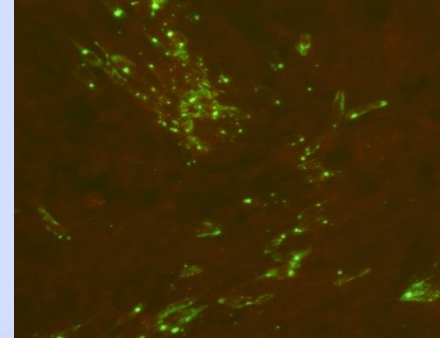




Rabies Diagnostic Techniques

Current Diagnosis methods

- **Agent identification**
 - Direct fluorescent antibody test (FAT)
 - Molecular technique
- **Serological test**
 - ELISA
 - Fluorescent antibody virus neutralisation test (FAVN)





FAT



Gold standard: 99% SE, 95% SP (Cliquet, 2018)

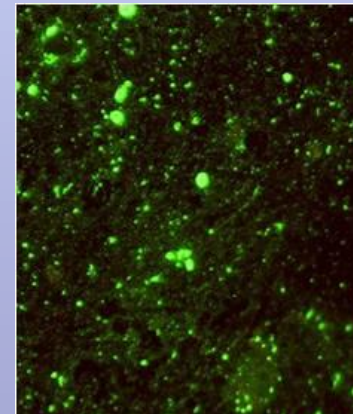
Fluorescein-labeled monoclonal antibodies against nucleocapsid protein

- **Purpose**

- Rabies diagnosis from brain tissues e.g. dogs, cats, cattle etc.

- **Quality assurance**

- ISO 17025 accreditation
 - Interlaboratory comparison





PCR



- Purpose
 - To test other specimens besides brains e.g. saliva
 - For research (do not use in routine diagnosis for rabies)
 - Sequencing
- Quality assurance
 - Protocol from Australian Health Laboratory (AAHL)/OIE: nested PCR, real-time PCR
 - Positive & negative controls
 - Validation and standardization are needed.



ELISA



Platelia II kit: Anti-glycoprotein G antibodies
quantitative test, cut-off 0.5 EU/ml

Propose

- **To determine responses to rabies vaccination**
- **For large epidemiological survey in animals**

Quality assurance

- **Standard control in the kit**
- **Validation the test kit with FAVN**





FAVN

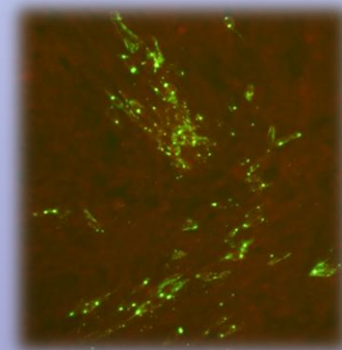


- Purpose

- To determine responses to rabies vaccination and the effectiveness of rabies vaccination campaign
- To follow the requirement for international travel of animals e.g. Taiwan, Singapore, Indonesia etc.

- Quality assurance

- Proficiency testing with (AAHL) in 2013-2014 supported by FAO
- Standard serum control
- Standard virus: CVS-11 strain
- Well-trained staffs





Thank you

