

**CORRELATION OF ANTIBODY TITER AND LEVELS OF
INTERLEUKIN-2 IN DOGS VACCINATED WITH RABIES
IN MAROS REGENCY**

Anicetus Savio Mutu

Abstrak

The aim of this study was to know correlation of IL-2 with titer antibody in dog which vaccination by using serological test with ELISA. Rabies disease is a strategic disease which is important to human, because case fatality rate reaches 100 %. Dog is the main vector of rabies disease in Indonesia. The prevention act through vaccination is effective enough to make the antibody titer protective 0.5 IU/ml. IL-2 is one of the factors in antibody development. The research result shows that there is a significance difference between vaccinated dog and unvaccinated dog with $P=0.02$, which means vaccination creates protective antibody titer and there is a significance difference on IL-2 value between the vaccinated and unvaccinated dog $P=0.027$. However, there is no significance correlation between IL-2 value with antibody titer which is shown by the value of $R=0.123$ and correlation coefficient 0.593

Keyword: Interleukin-2, antibody titer, rabies virus, ELISA.

DAFTAR ISI

	Halaman
HALAMAN SAMPUL DALAM	ii
HALAMAN PERNYATAAN	iii
HALAMAN PENGESAHAN	iv
HALAMAN PENETAPAN PANITIA PENGUJI	v
UCAPAN TERIMAKASIH	vi
RINGKASAN	viii
ABSTRAK	ix
DAFTAR ISI	x
DAFTAR TABEL	xii
DAFTAR GAMBAR	xiii
DAFTAR LAMPIRAN	iv
SINGKATAN DAN ARTI LAMBANG	xv
BAB I PENDAHULUAN	1
1.1 Latar Belakang	1
1.2 Rumusan Masalah	3
1.3 Tujuan Penulisan	4
1.4 Manfaat Penelitian	4
1.4.1 Manfaat Teoritis	4
1.4.2 Manfaat Praktis	4
BAB II TINJAUAN PUSTAKA	5
2.1 Rabies	6
2.1.1 Karakterisasi Virus Rabies	6
2.1.2 Patogenesis Virus Rabies	8
2.1.3 Replikasi Virus Rabies	9
2.1.4 Epidemiologi Rabies di Indonesia	11
2.1.5 Vaksin Rabies	14
2.2 Antibodi	18
2.2.1 Pembentukan Antibodi	18
2.2.2 Antibodi Rabies	21
2.3 Interleukin	23
2.3.1 Interleukin Rabies	25
2.4 Diagnosa Serologis Menggunakan ELISA	26
BAB III KERANGKA KONSEP DAN HIPOTESIS PENELITIAN	28
3.1 Kerangka Konsep	28
3.2 Hipotesis Penelitian	31

BAB IV MATERI DAN METODE	32
4.1 Tempat dan Waktu Penelitian.....	32
4.2 Jenis Penelitian.....	32
4.3 Variabel Penelitian.....	32
4.4 Definisi Operasional.....	33
4.5 Bahan dan Materi Penelitian.....	33
4.6 Metode Penelitian.....	33
4.6.1 Profil Respon Imun Antibodi Pada Anjing.....	33
4.6.2 Uji ELISA.....	34
4.6.2.1 Uji Titer Antibodi Rabies.....	34
4.6.2.2 Uji Titer IL-2 Rabies.....	35
4.7 Analisis Data.....	35
4.8 Kerangka Operasional Penelitian.....	36
BAB V HASIL DAN ANALISIS PENELITIAN	37
5.1 Hasil penelitian.....	37
5.1.1 Kadar interleukin-2.....	37
5.1.2 titer antibodi anjing.....	38
5.2 Analisis Hasil penelitian.....	39
5.2.1 Analisis kadar IK-2 anjing terhadap rabies.....	39
5.2.2 Analisis titer antibodi anjing terhadap rabies.....	39
5.2.3 Hasil uji korelasi kadar IL-2 dengan titer antibodi.....	39
BAB VI PEMBAHASAN	42
6.1 kadar interleukin-2 dan titer antibodi anjing terhadap rabies.....	42
6.1.1 Kadar IL-2.....	42
6.1.2 Titer antibodi.....	43
6.2 Hubungan kadar interleukin-2 dengan titer antibodi.....	46
BAB VI PENUTUP	49
7.1 Kesimpulan.....	49
7.2 Saran.....	49
DAFTAR PUSTAKA	50
LAMPIRAN	55

DAFTAR TABEL

Tabel 5.6	Independent Samples Test kadar IL-2	37
Tabel 5.5	Independent Samples Test titer antibodi anjing divaksinasi dan tidak divaksinasi.	38





DAFTAR GAMBAR

Gambar 2.1.1 Struktur genetik virus rabies	7
Gambar 2.1.3 Replikasi virus rabies.....	11
Gambar 2.1.5 Manipulasi gen dalam pembuatan vaksin	17
Gambar 3.1 Kerangka konseptual penelitian	28
Gambar 4.1 Kerangka operasional penelitian	36
Gambar 5.1 Hubungan regresi linear	40



DAFTAR LAMPIRAN

Lampiran:		Halaman
1. Tabel 1 Standar pengukuran titer antibodi anjing divaksinasi dan tidak divaksinasi		55
2. Table 2 Titer antibodi anjing divaksinasi dan tidak divaksinasi.		55
3. Tabel 3 Standar pengukuran titer IL-2		56
4. Tabel 4 Kadar interleukin-2		56
5. Tabel 5 Hubungan kadar IL-2 terhadap peningkatan titer antibodi		57
6. Analisis statistik uji t tidak berpasangan terhadap kadar IL-2 dan titer antibodi serum anjing yang tidak dan diimunisasi rabies		57
7. Analisis statistik regresi antara kadar IL-2 dengan titer antibodi serum anjing yang tidak dan diimunisasi rabies.....		58

SINGKATAN DAN ARTI LAMBANG

APC	= <i>antigen presenting cell</i>
Ab	= antibodi
CDK	= <i>cyclin-dependent kinase</i>
CDC	= Critical disease centre
ELISA	= <i>Enzym Linked Immunosorbent assay</i>
IL-2	= Interleukin-2
IU/ml	= Internasional unit/ mili liter
kDa	= kilo Dalton
OD	= Optical density
WHO	= world health organization
Tr	= <i>T-regulator</i>
Ts	= <i>T-supresor</i>
Tc	= T- sitotoksik
Th	= <i>T-helper</i>
μ L	= mikroliter
$^{\circ}$ C	= derajat celcius
\pm	= kurang lebih
%	= persen

