
ประเทศไทย
Thailand
Bay of Bengal
Việt Nam
Vietnam
Pilipinas
Philippines
Gulf of Thailand
Malaysia
Indonesia
Laut Banda
Papua New Guinea
Arafura Sea
Coral Sea
Indian Ocean
NT
QLD
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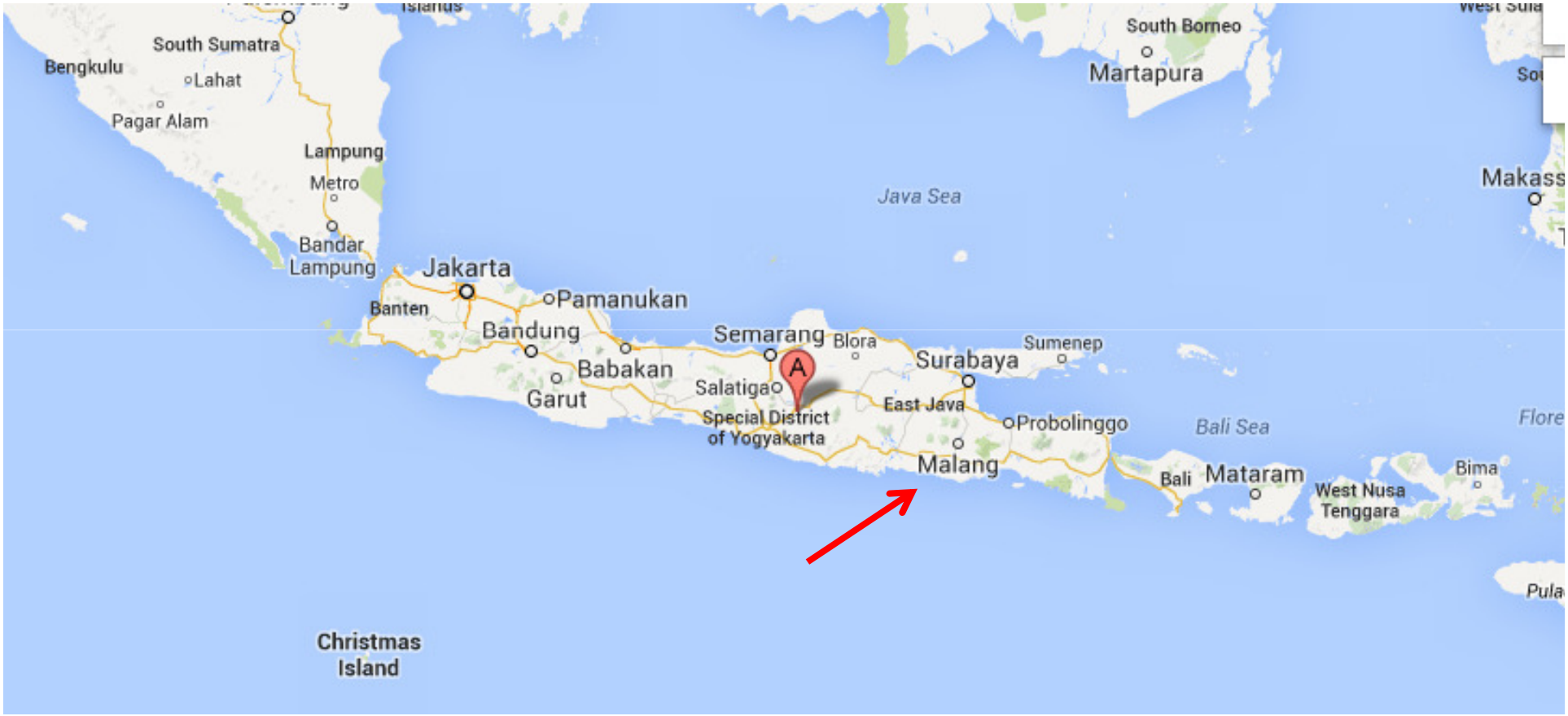
South Sumatra
Bengkulu
Lahat
Pagar Alam
Lampung
Metro
Bandar Lampung
Java Sea
South Borneo
Martapura
Jakarta
Pamanukan
Banten
Bandung
Semarang
Blora
Sumenep
Surabaya
A
Babakan
Salatiga
Garut
East Java
Special District of Yogyakarta
Probolinggo
Bali Sea
Malang
Bali
Mataram
West Nusa Tenggara
Bima
Christmas Island

Can Mice Legated Ilea Loop (MLIL) Model Replace Rabbit Ilea Loop (RIL) for studying Bacterial Diarrhea?

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- **Shigellosis is a diarrheal disease and still a big problem in developing countries (**Agtini *et all*. 2007, Herwana *et all* 2010)
- **The best prevention is by using a vaccine but so far there has not be any suitable vaccine (**Kweon 2008, Levine 2007)
- **Molecule adhesion of bacteria can serve as a basic component of the Pertussis vaccine (**Poolman and Hallander 2007***).***
- ***S. dysenteriae* sub-unit pili protein which has MW 7,9 and 48,9 kDa molecule is adhesive (**IJMR major correction)

The aims of the study

"are to clarify that *S. dysenteriae* sub-unit pili proteins which have MW 7,9 and 48,9 kDa as an adhesive molecule can show diarrhea protection which was confirmed by using MLIL methode"

Method

- **To know the protectively antigen the study was conducted by post control study design**
- **The method of study was MLIL.**
- **Mice were divided into four groups.**

  1.The first group without immunization was used as a control group.

  2. The second group was immunized with *S. dysenteriae* sub-unit pili protein which has MW 7,9 kDa.

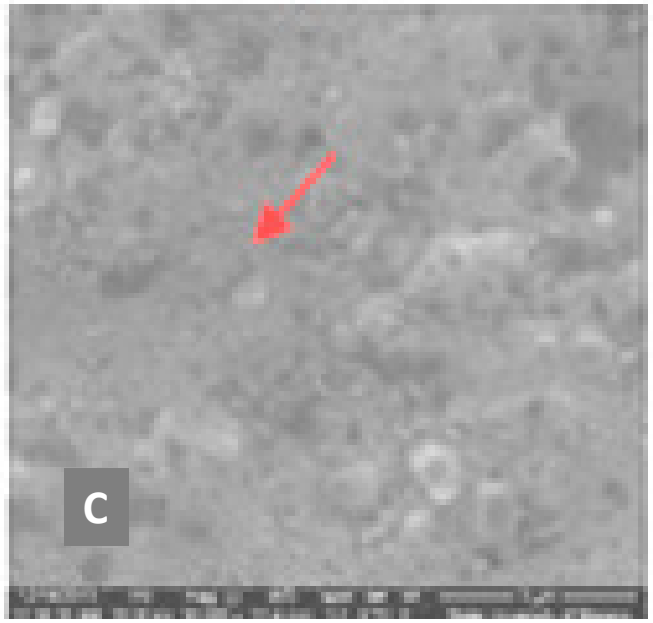
  3. Third group was immunized with *S. dysenteriae* sub-unit pili protein which has MW 48,9 kDa.

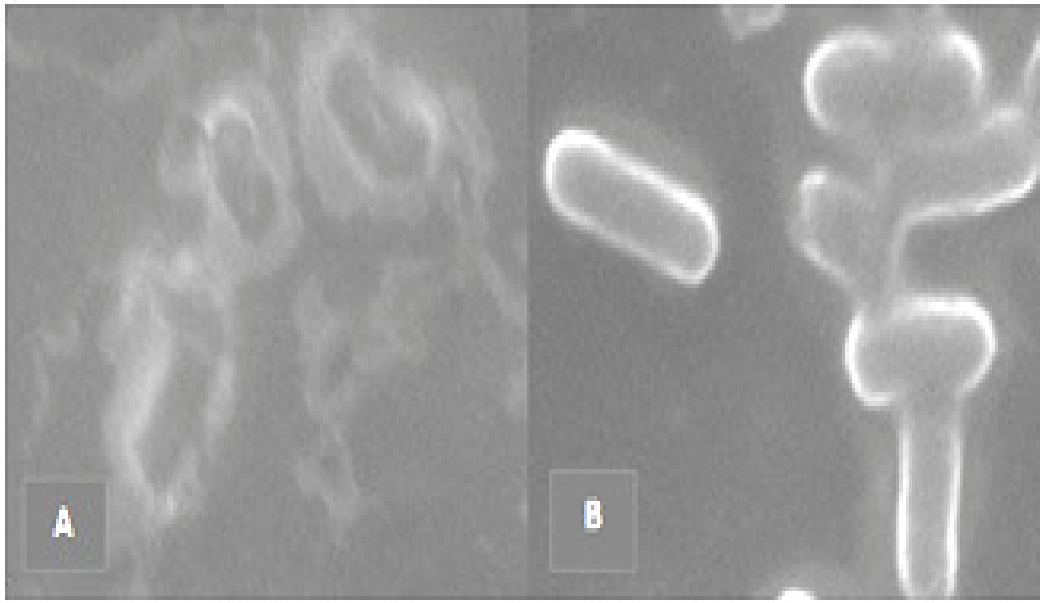
  4. The last group was immunized with combination of *S. dysenteriae* sub-unit pili proteins which has MW 7,9 and 48,9 kDa. The chosen adjuvant immunogen was ISCOM.
- **Data were analized using ANOVA and Tuckey test**

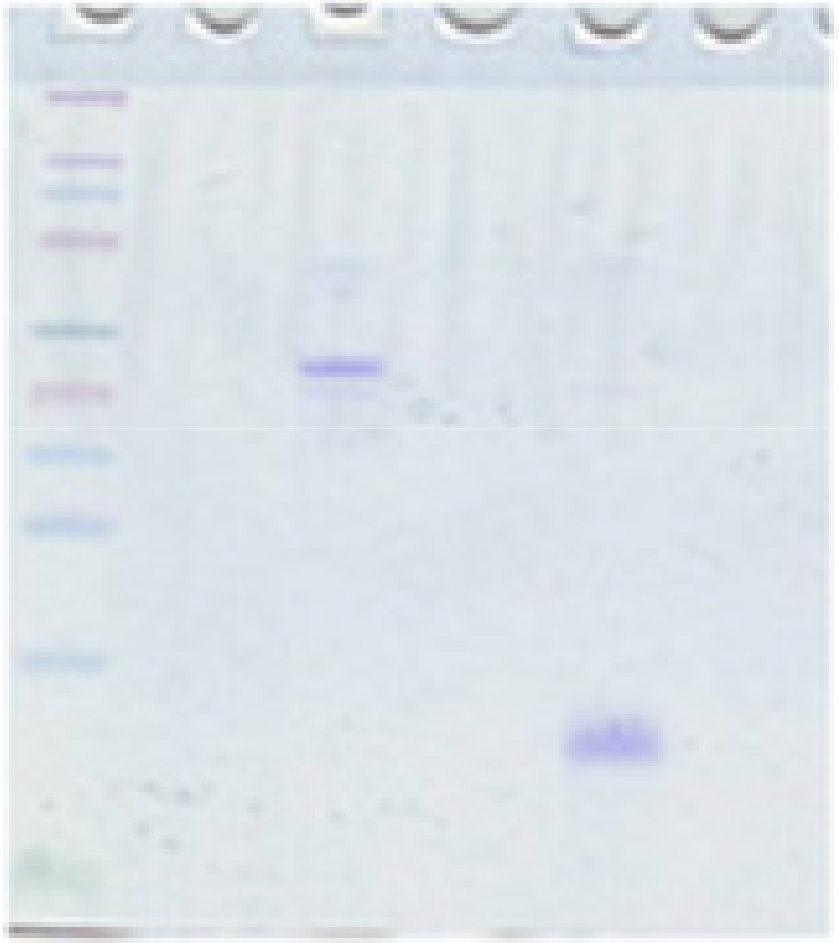
RESULTS

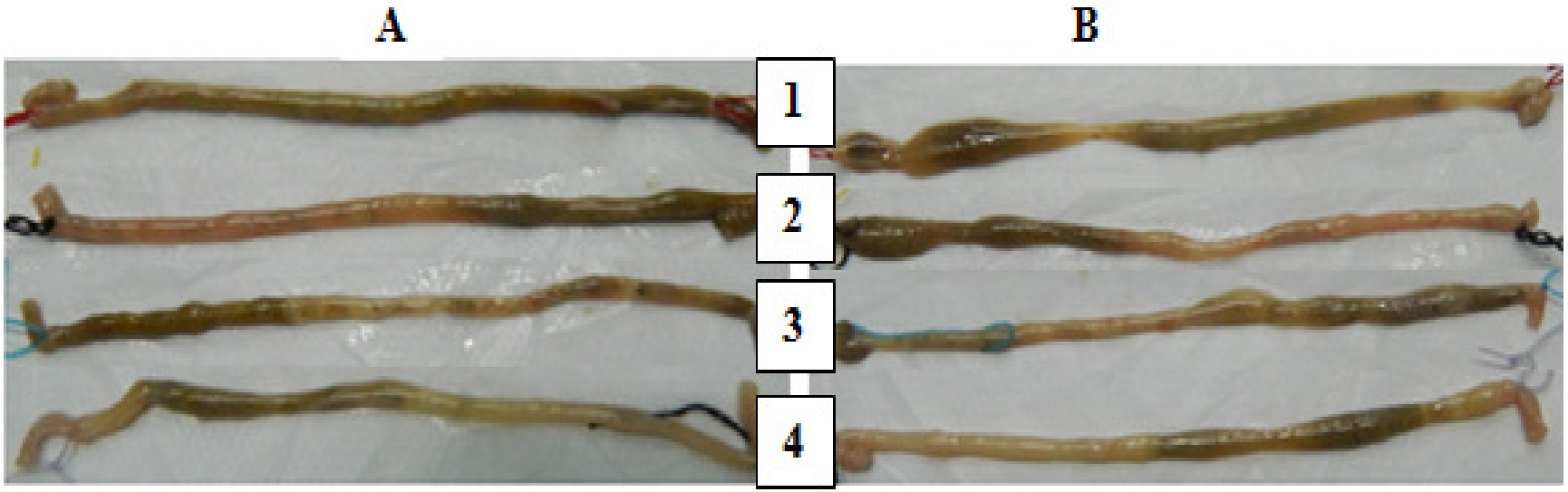
Bacterial Pillus Cutter

A	Whole cells S. dysenteriae
B	S. dysenteriae after cutting
C	Protein pili S. dysenteriae






49.8 kDa
7.9 kDa

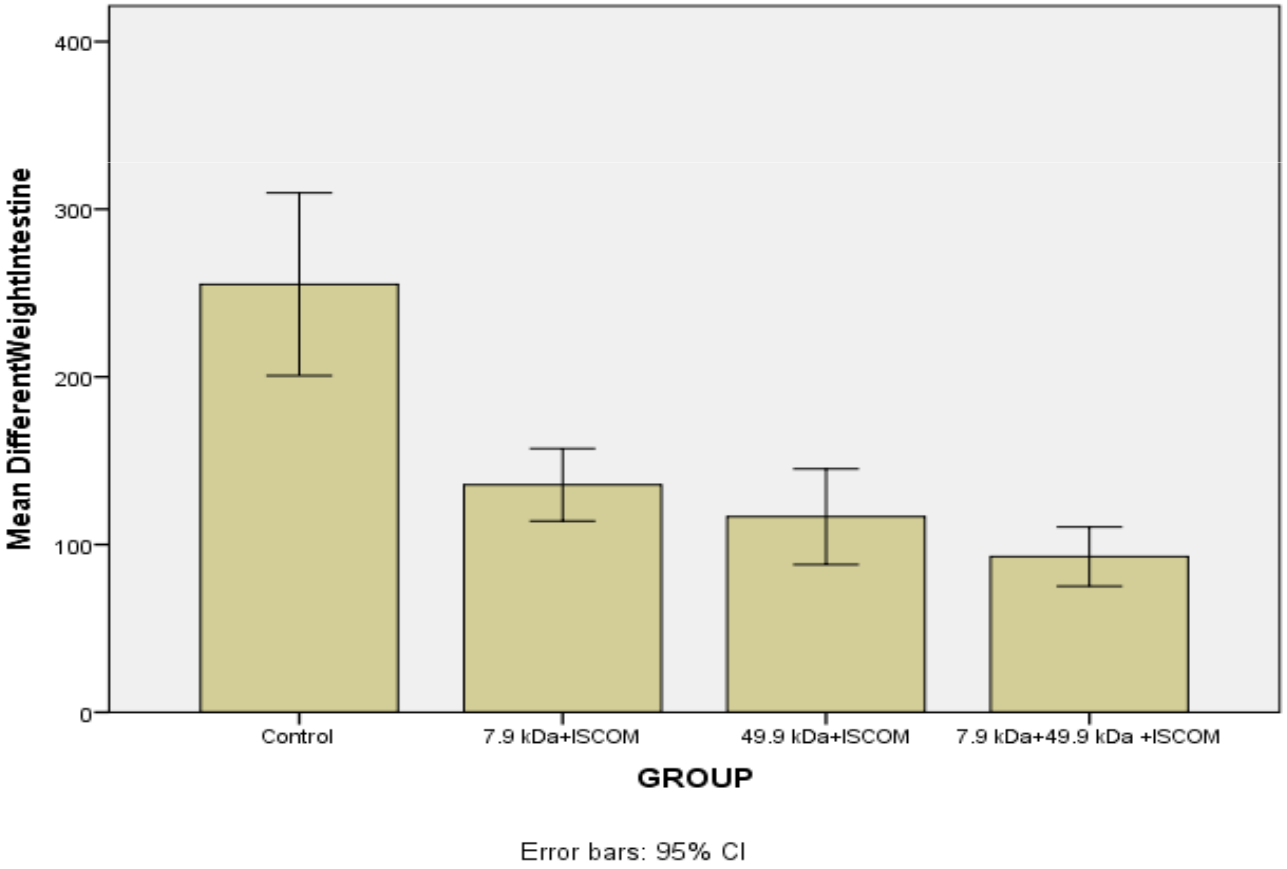


A. MLIL before exposed with *S. dysenteriae*

B. MLIL after exposed with *S. dysenteriae*

1. MLIL control
2. MLIL immunized with protein 7.9 kDa+ISCOM
3. MLIL immunized with protein 49.9 kDa+ISCOM
4. MLIL combine immunized protein 7.9 kDa with 48.9 kDa + ISCOM

Sample	Mean ±SE	Siq
Control	255.20 ±19.615	a
7.9 kDa+ISCOM	135.60 ±7,782	b
49.9 kDa+ISCOM	116.60 ±10.297	bc
7.9 kDa+49.9 kDa +ISCOM	92.80± 6.367	bcd



Rabbit Ilea Loop (RIL) Model

VS

Mice Legated Ilea Loop (MLIL) Model

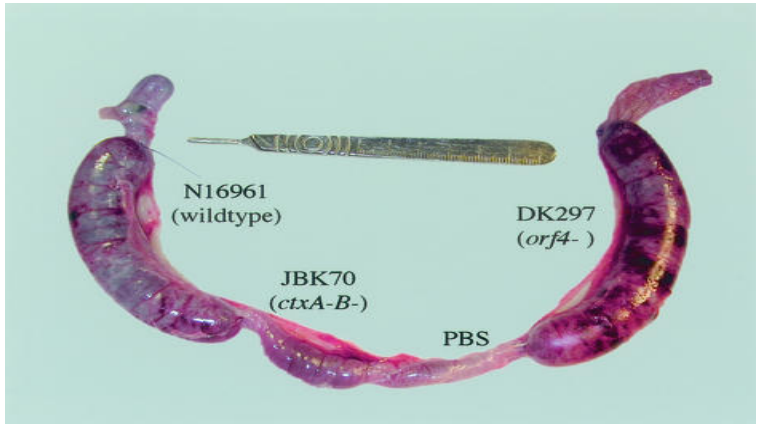
Compararation RIL Vs MILL

No		RIL	MILL
1	Degrees of Animal	Upper than MILL	Lower than RIL
2	How two kill	* **Given the opportunity to live 6 until 8 hours after the abdominal incision closed.** * **At this time the rabbit may be pain after narcotics effect lost**	Animals were killed directly
3	Model	In -Vivo	Ex-Vivo

Compilation of the Result Study

Zhang and Dalin 2003

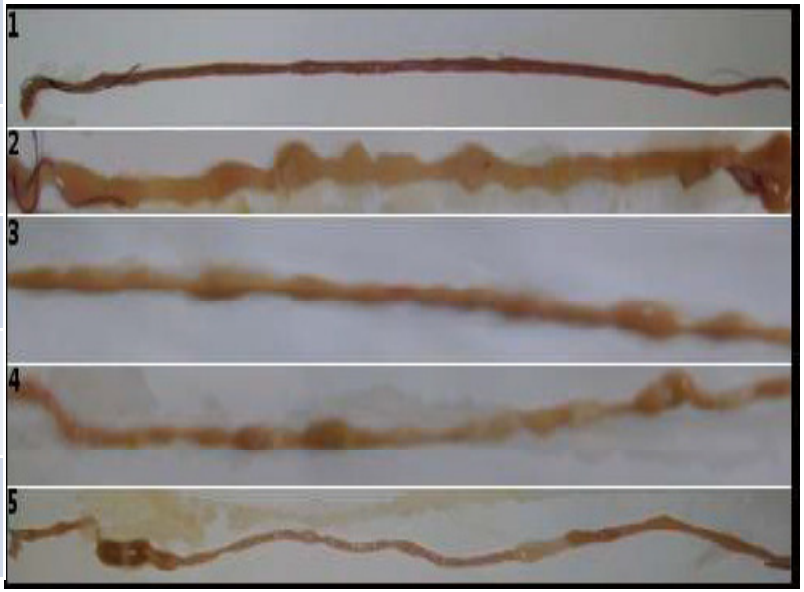
RIL *V. cholerae*



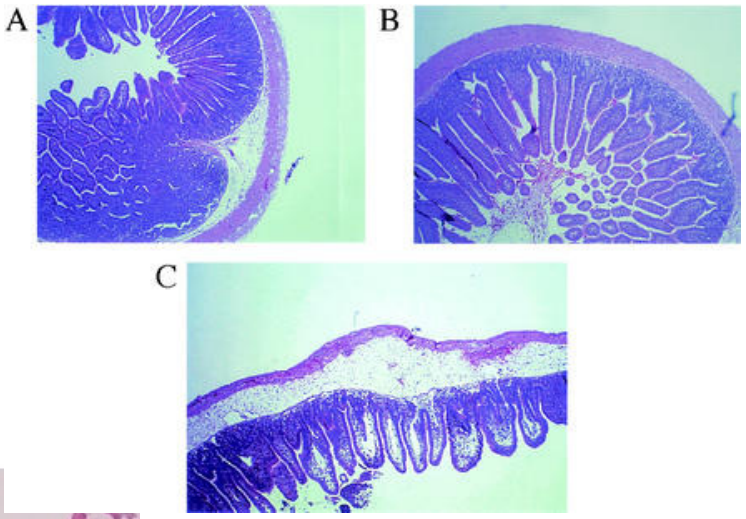
Faisal 2013

MILL *V. cholerae*

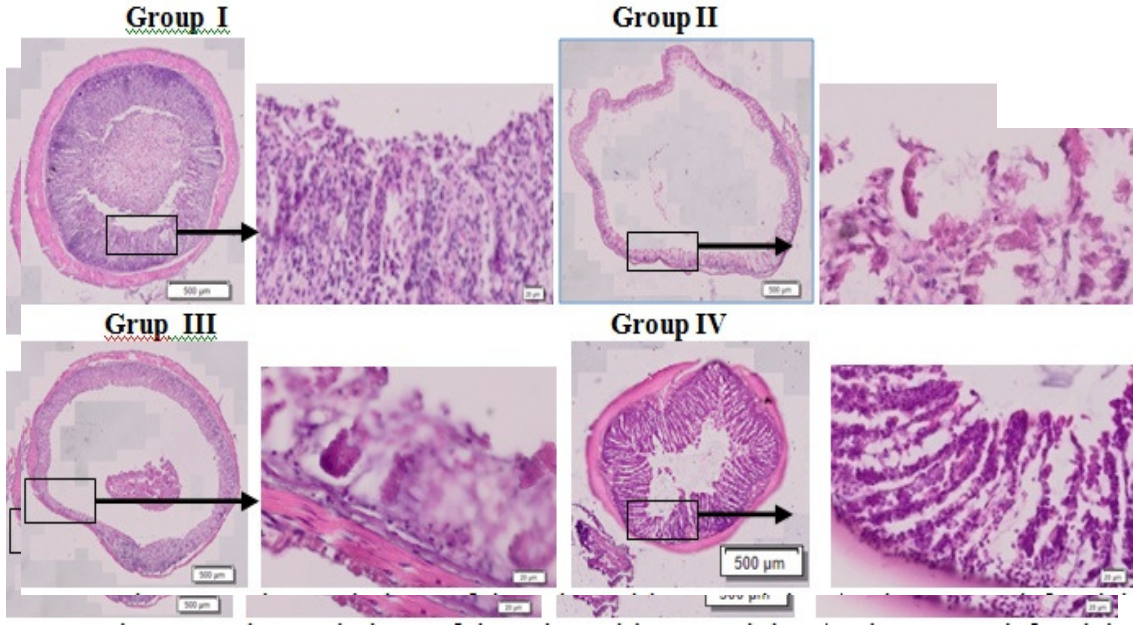
Group of Mice	No
Without immunized not injected by *V. cholerae* (control negative)	1
Without immunized injected by *V. cholerae* (control positive)	2
Immunized with Sumbawa fermented mare's milk injected by *V. cholerae*	3
Immunized with Sumbawa fermented mare's milk i+ CT B injected by *V. cholerae*	4
Immunized with Sumbawa fermented mare's milk i+ CT B + mol adhesive pili injected by *V. cholerae*	5



Zhang and Dalin 2003
RIL *V. cholerae*



Setyorini
MILL *S. dysenteriae* 2013



Conclusion

- Moving solution prevention from intestine to lumen was found in the second, third, and forth groups
- The MLIL test can be used for studying bacterial diarrhea in animal model.
  - **Can Mice Legated Ilea Loop (MLIL) Model Replace Rabbit Ilea Loop (RIL) for studyng bacterial Diarrhae???**

(Ethical Clearance in Animal Model ???)

THANK YOU