

***Sinergism Effect Anticancer Of  
Etyl Acetat Fraction Calotropis gigantea Roots  
(EACGR) With 5 Fluorouracil On Human Breast  
Cancer T47D Cell Lines***

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Disampaikan pada seminar :  
7<sup>th</sup> International Conference on Green Technology

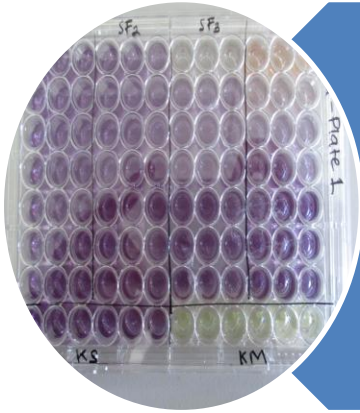
# BACKGROUND

Leaf ( $IC_{50}$  48,5  $\mu\text{g}/\text{mL}$ ) and root extract ( $IC_{50}$  44,2  $\mu\text{g}/\text{mL}$ ) were active as anticancer colon (Mutiah dkk, 2014)

Fractions of root extract ( FDCM  $IC_{50}$  = 0.367  $\mu\text{g}/\text{ml}$ , FEA  $IC_{50}$  = 0.063  $\mu\text{g}/\text{mL}$  were higher activity than fraction of leaves extract (DCM  $IC_{50}$  = 40.57  $\mu\text{g}/\text{mL}$ , EA  $IC_{50}$  = 41.79  $\mu\text{g}/\text{ml}$  )

Combination with chemotherapy of EA fraction

# OBJECTIVE



To obtain the monotherapy effect of ethyl acetate fraction *Calotropis gigantea* roots (EACGR) on human breast cancer t47d cell lines.



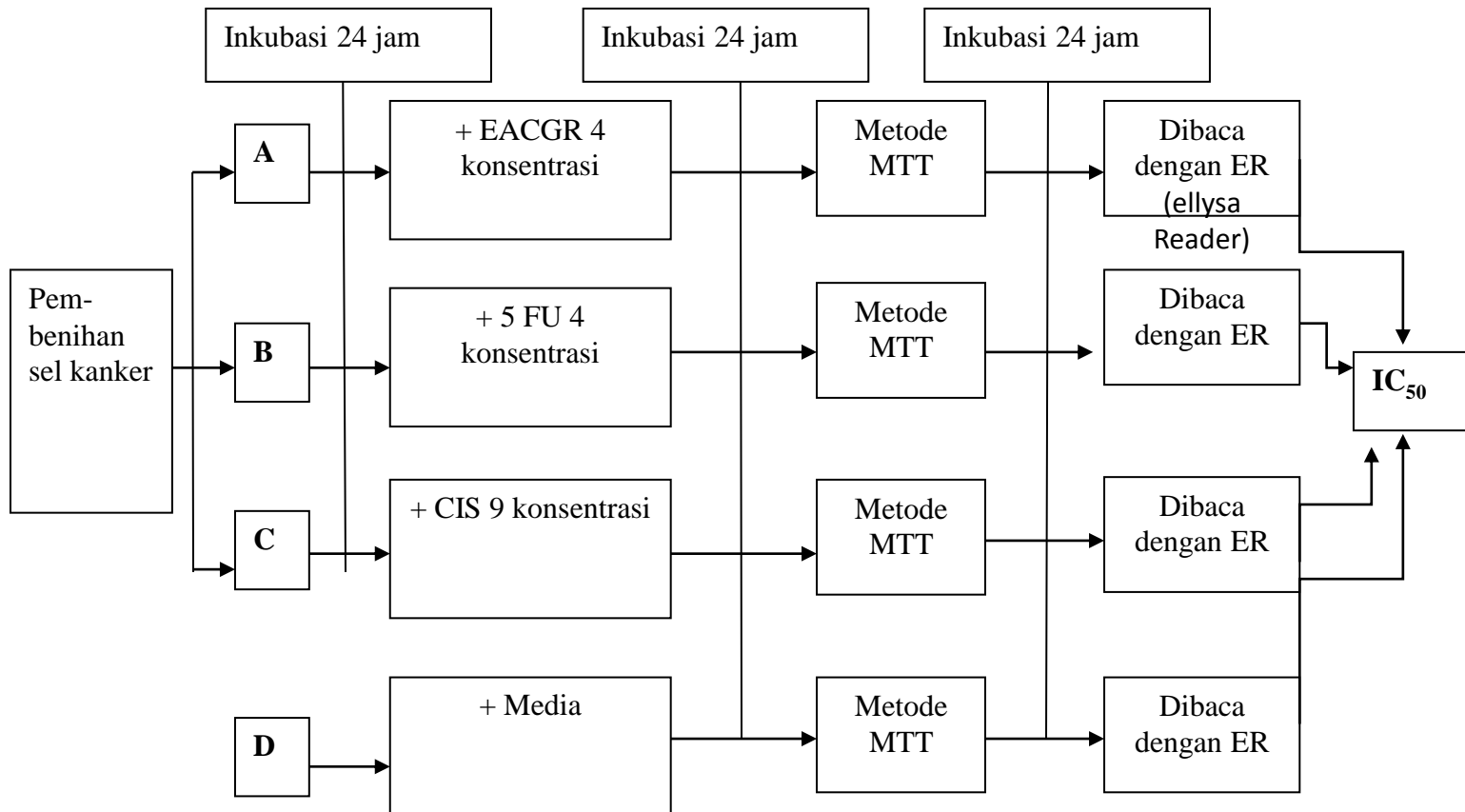
To obtain the synergism effect of ethyl acetate fraction *Calotropis gigantea* roots (EACGR) with 5 fluorouracil on human breast cancer t47d cell lines.

# Benefit

To give scientific information about anticancer activity combination from ethyl acetate fraction of *Calotropis gigantea* roots and 5 Fluorouracil

To give therapeutic choice for anticancer drugs

# MATERIAL AND METHODS

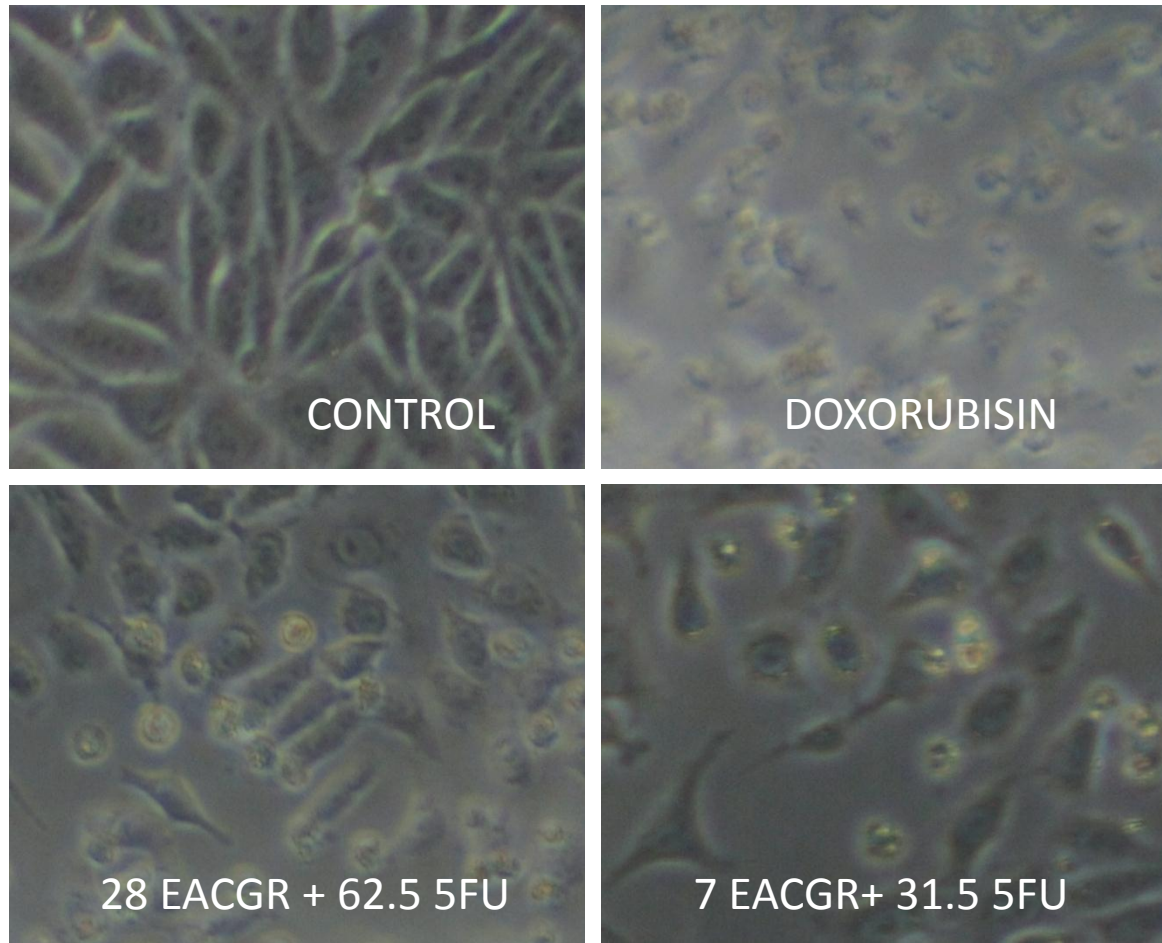




# MATERIAL AND METHODS

CGLE : 5-FU/DOX												
	1		3	4	5	6	7	8	9	10	11	12
A	E A C G R		½ IC50	½ IC50 EACGR : 100 µg/ml			½ IC50 EACGR : 50 µg/ml					
B			¾ IC50	¾ IC50 EACGR : 100 µg/ml			¾ IC50 EACGR : 50 µg/ml					
C			IC50	IC50 EACGR : 100 µg/ml			IC50 EACGR : 50 µg/ml					
D			IC50	IC50 EACGR : 100 µg/ml			IC50 EACGR : 50 µg/ml					
E	5 - F U		100	½ IC50 EACGR : 25			½ IC50 CGLE : 12,5			CONTROL OF CELL		
F			50	¾ IC50 EACGR : 25			¾ IC50 CGLE : 12,5					
G			25	IC50 EACGR : 25			IC50 CGLE : 12,5			CONTROL OF MEDIA		
H			12,5	IC50 EACGR : 25			IC50 CGLE : 12,5					

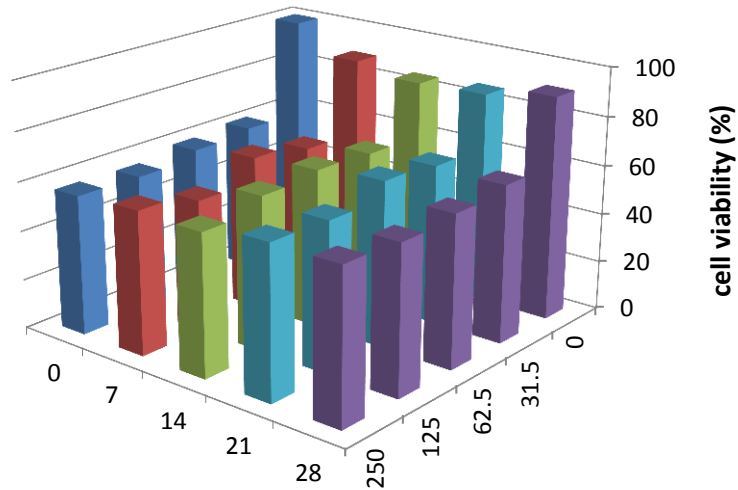
# RESULT AND DISCUSSION



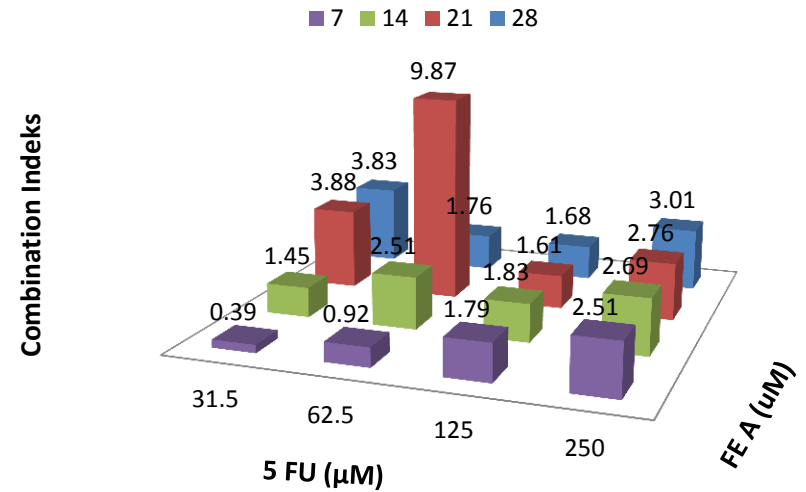
**Figure 1. The effect of EACGR, 5-FU monotherapy and combination therapy to the morphology of T47D cell line. Cell morphology was examined by using inverted microscope with magnification 400x**



# RESULT AND DISCUSSION



CI Fraksi Etil Asetat *Calotropis gigantea* dan 5 FU



**Figure 3. synergism effect of EACGR with 5-FU on T47D Cell line**

# RESULT AND DISCUSSION

No	Kombinsai		cell viability		CI	kategori efek
	FEA ( $\mu\text{g/ml}$ )	5 FU ( $\mu\text{g/ml}$ )	rata-rata SD	$\pm$		
1	7	31.5	58.67	$\pm$ 2.198	0.39	sinergis
	14	31.5	63.16	$\pm$ 0.788	1.45	antagonis
	21	31.5	64.77	$\pm$ 1.37	3.88	antagonis kuat
	28	31.5	64.05	$\pm$ 4.52	3.83	antagonis kuat
2	7	62.5	62.62	$\pm$ 4.00	0.92	sinergis ringan
	14	62.5	64.47	$\pm$ 4.33	2.51	antagonis
	21	62.5	67	$\pm$ 4.21	9.87	antagonis kuat
	28	62.5	61.62	$\pm$ 2.60	1.76	antagonis
3	7	125	53.42	$\pm$ 0.54	1.79	antagonis
	14	125	62.57	$\pm$ 1.91	1.83	antagonis
	21	125	60.48	$\pm$ 2.02	1.61	antagonis
	28	125	59.86	$\pm$ 1.57	1.68	antagonis
4	7	250	58.14	$\pm$ 3.42	2.51	antagonis
	14	250	57.48	$\pm$ 1.29	2.99	antagonis
	21	250	61.33	$\pm$ 1.19	2.76	antagonis
	28	250	61.24	$\pm$ 0.62	3.01	antagonis

# CONCLUSION

1. The data analysis showed that combination therapy of EACGR and 5 Fluorouracil have been synergistic effect at 7  $\mu\text{g}/\text{ml}$  EACGR and 32.5  $\mu\text{g}/\text{ml}$  5-FU, with Combination Index value (CI) ranging from 0.20 to 0.07. The effect minor synergistic of this combination was showed at dose 7  $\mu\text{g}/\text{ml}$  EACGR and 62.5  $\mu\text{g}/\text{ml}$  5-FU, with Combination Index value (CI) ranging from 0.7 to 0.9.
2. Combination therapy of 7  $\mu\text{g}/\text{ml}$  EACGR and 32.5  $\mu\text{g}/\text{ml}$  5-FU have been synergistic anticancer effect on human breast cancer cell line T47D.

