

CALCULO DE TITULO VIRAL DE LA VACUNA DE ROTAVIRUS



Método de Reed and Muench

**Presentado por:
Ana Agatón**

CALCULO DE TITULO VIRAL DE LA VACUNA DE ROTAVIRUS

□ Método de Reed and Muench

Es un método matemático que permite calcular el título viral expresado en dosis infectiva 50

□ **DICC₅₀** = Es la cantidad de virus capaz de infectar al 50% de una monocapa celular inoculada con el, en estas unidades se expresa la potencia de la vacuna de rotavirus

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□ Ejemplo de Cálculo:

Dilution of Inoculum Include range of dilutions from 100% infected to 0% infected	Number of well Inoculum	Number of well infected (+)	Number of well not infected (-)	Accumulated numbers			Percentage infected
				Infected (A)	Not infected (B)	Total (A+B)	$A/(A+B) \times 100$

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$10^{-4.6}$							
$*10^{-5.2}$							
$10^{-5.8}$							
$10^{-6.4}$							

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$10^{-4.6}$	10						
$*10^{-5.2}$	10						
$10^{-5.8}$	10						
$10^{-6.4}$	10						

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$10^{-4.6}$	10	10					
$*10^{-5.2}$	10	6					
$10^{-5.8}$	10	2					
$10^{-6.4}$	10	0					

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$*10^{-5.2}$	10	6	4				
$10^{-5.8}$	10	2	8				
$10^{-6.4}$	10	0	10				

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$10^{-4.6}$	10	10	0	18			
$*10^{-5.2}$	10	6	4	8			
$10^{-5.8}$	10	2	8	2			
$10^{-6.4}$	10	0	10	0			

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$10^{-4.6}$	10	10	0	18	0		
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$10^{-5.8}$	10	2	8	2	12		
$10^{-6.4}$	10	0	10	0	22		

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$10^{-4.6}$	10	10	0	18	0	18	
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$10^{-6.4}$	10	0	10	0	22		

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$10^{-4.6}$	10	10	0	18	0	18	
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$10^{-5.8}$	10	2	8	2	12		
$10^{-6.4}$	10	0	10	0	22		

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$10^{-4.6}$	10	10	0	18	0	18	
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$10^{-4.6}$	10	10	0	18	0	18	$18/18 = 100\%$
$*10^{-5.2}$	10	6	4	8	4	12	
$10^{-5.8}$	10	2	8	2	12	14	
$10^{-6.4}$	10	0	10	0	22	22	

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$10^{-4.6}$	10	10	0	18	0	18	$18/18 = 100\%$
$*10^{-5.2}$	10	6	4	8	4	12	$4/12 = 66.67\%$
$10^{-5.8}$	10	2	8	2	12	14	
$10^{-6.4}$	10	0	10	0	22	22	

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$10^{-4.6}$	10	10	0	18	0	18	$18/18 = 100\%$
$*10^{-5.2}$	10	6	4	8	4	12	$4/12 = 66.67\%$
$10^{-5.8}$	10	2	8	2	12	14	$2/14 = 14.29\%$
$10^{-6.4}$	10	0	10	0	22	22	

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$*10^{-5.2}$	10	6	4	8	4	12	$4/12 = 66.67\%$
$10^{-5.8}$	10	2	8	2	12	14	$2/14 = 14.29\%$
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$10^{-5.8}$	10	2	8	2	12	14	$2/14 = 14.29\%$
$10^{-6.4}$	10	0	10	0	22	22	$0/22 = 0\%$

$$\text{Index} = \frac{(\% \text{ infected at dilution immediately above } 50\%) - 50\%}{(\% \text{ infected at dilution immediately above } 50\%) - (\% \text{ infected at dilution immediately below } 50\%)} : X \text{ Log DF} =$$

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Dilution of Inoculum Include range of dilutions from 100% infected to 0% infected	Number of well inoculum	Number of well infected (+)	Number of well not infected (-)	Accumulated numbers			Percentage infected $A/(A+B) \times 100$
				Infected (A)	Not infected (B)	Total (A+B)	
$10^{-4.6}$	10	10	0	18	0	18	$18/18 = 100\%$
* $10^{-5.2}$	10	6	4	8	4	12	$4/12 = 66.67\%$
$10^{-5.8}$	10	2	8	2	12	14	$2/14 = 14.29\%$
$10^{-6.4}$	10	0	10	0	22	22	$0/22 = 0\%$

$$\text{Index} = \frac{(\% \text{ infected at dilution immediately above } 50\%) - 50\%}{(\% \text{ infected at dilution immediately above } 50\%) - (\% \text{ infected at dilution immediately below } 50\%)} \times \text{Log DF} =$$

$$\text{Index} = \frac{66.67 - 50}{66.67 - 14.29} \times 0.6 = 0.191$$

Apply the index calculated using this formula to the dilution that produced the infection rate immediately above 50 percent = $10^{-5.39}$
(Mark dilution with *)

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$$\text{Index} = \frac{(\% \text{ infected at dilution immediately above } 50\%) - 50\%}{(\% \text{ infected at dilution immediately above } 50\%) - (\% \text{ infected at dilution immediately below } 50\%)} \times \text{Log DF} =$$

$$\text{Index} = \frac{66.67 - 50}{66.67 - 14.29} \times 0.6 = 0.191$$

• This dilution of the virus suspension contained one CCID₅₀ unit of virus in 0.1 mL

• 1 mL of the virus suspension will contain ten times the reciprocal of the calculated dilution

• Therefore Infectivity Titre of virus suspension in CCID₅₀/mL = $10 \times 10^{5.39}$
= $10^{6.39}$ CCID₅₀/mL

CALCULO DE TITULO VIRAL DE LA VACUNA DE ROTAVIRUS

MICROWELL PLATE RECORDING SHEET FOR POTENCY TEST

[illegible]

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