

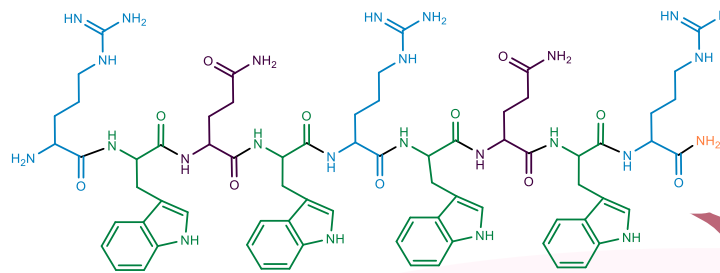
# Péptido funcionalizado derivado de Lactoferricina con actividad citotóxica selectiva para cáncer de mama

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## RESUMEN



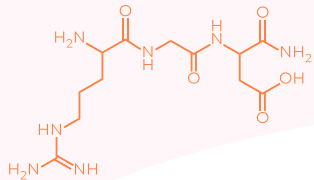
La quimioterapia como tratamiento estándar carece de selectividad y genera fuertes efectos secundarios.



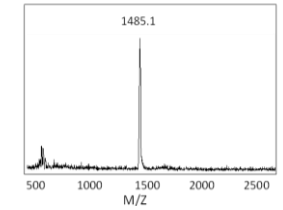
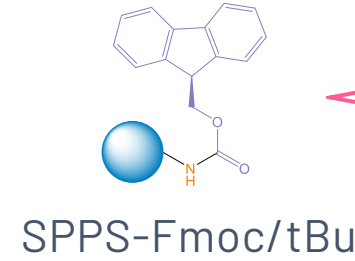
MCF-7  
IC<sub>50</sub>: 66 μM

HTB-26  
IC<sub>50</sub>: 135 μM

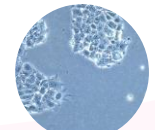
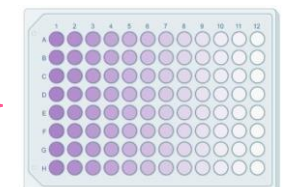
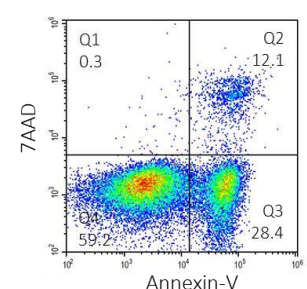
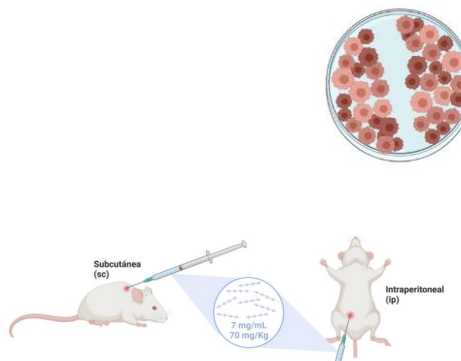
HTB-132  
IC<sub>50</sub>: 72 μM



## MÉTODOS



Caracterización (RP-HPLC & ESI-Q-TOF)

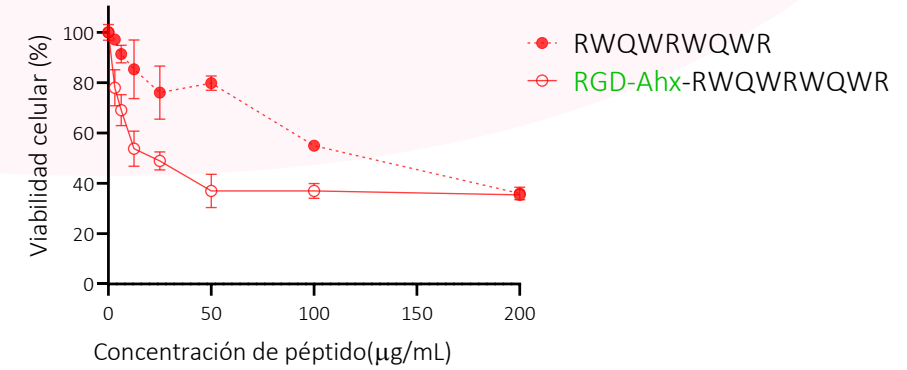


MCF-7  
BT-474  
HTB-26  
HTB-132

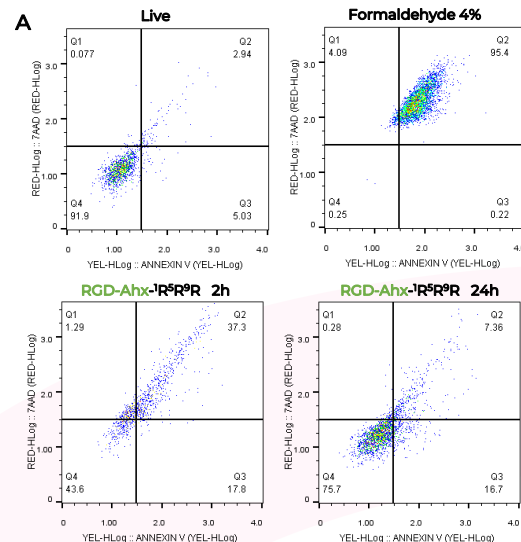
# RESULTADOS

Secuencia	RP-HPLC		ESI-MS	
	t <sub>R</sub> (min)	Pureza (%)	Teórico	M Exp. Prom.
RWQWRWQWR-NH <sub>2</sub>	6.3	92	1485.75	1485.88
<b>RGD-Ahx</b> -RWQWRWQWR-NH <sub>2</sub>	6.3	92	1928.21	1928.48
RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	6.3	96	1928.21	1928.46
<b>RGD-Ahx</b> -RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	4.8	86	1869.14	1968.20
<b>DGR-Ahx</b> -RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	4.9	81	1869.14	1869.08
<b>DGR-Ahx</b> -RWQWRWQWR- <b>Ahx-DGR</b> -NH <sub>2</sub>	4.9	91	1869.14	1869.58

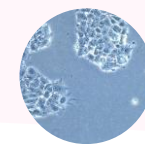
## MCF-7



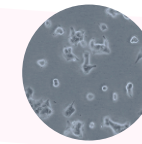
Secuencia	IC <sub>50</sub> µg/mL (µM)		Índice de selectividad	Hemólisis	
	MCF-7	Fibroblastos		Porcentaje <sup>a</sup>	Categoría
RWQWRWQWR-NH <sub>2</sub>	120 (81)	>200 (135)*	>1.6	6.7	No hemolítico
<b>RGD-Ahx</b> -RWQWRWQWR-NH <sub>2</sub>	<b>27 (14)</b>	<b>200 (104)</b>	<b>4</b>	<b>7.1</b>	<b>No hemolítico</b>
RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	>200 (104)*	>200 (104)*	1	3.3	No hemolítico
<b>RGD-Ahx</b> -RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	>200 (84)*	>200 (84)*	1	0.7	No hemolítico
<b>DGR-Ahx</b> -RWQWRWQWR- <b>Ahx-RGD</b> -NH <sub>2</sub>	>200 (84)*	>200 (84)*	1	1.6	No hemolítico
<b>DGR-Ahx</b> -RWQWRWQWR- <b>Ahx-DGR</b> -NH <sub>2</sub>	>200 (84)*	>200 (84)*	1	6.7	No hemolítico



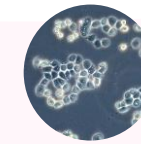
Secuencia	IC <sub>30</sub> µg/mL											
	MCF-7			BT-474			MDA-MB-468			MDA-MB-231		
Hora	2	24	48	2	24	48	2	24	48	2	24	48
RWQWRWQWR-NH <sub>2</sub>	51	63	80	150	>200	>200	57	53	30	67	151	70
<b>RGD-Ahx</b> -RWQWRWQWR-NH <sub>2</sub>	<b>4</b>	<b>2</b>	<b>2</b>	<b>93</b>	<b>&gt;200</b>	<b>&gt;200</b>	<b>7</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>58</b>



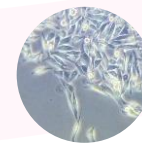
Luminal A



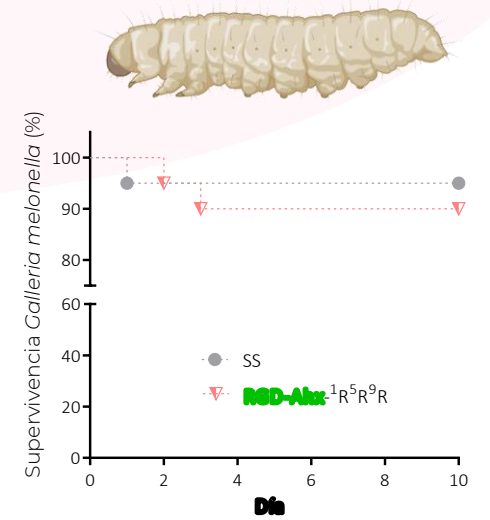
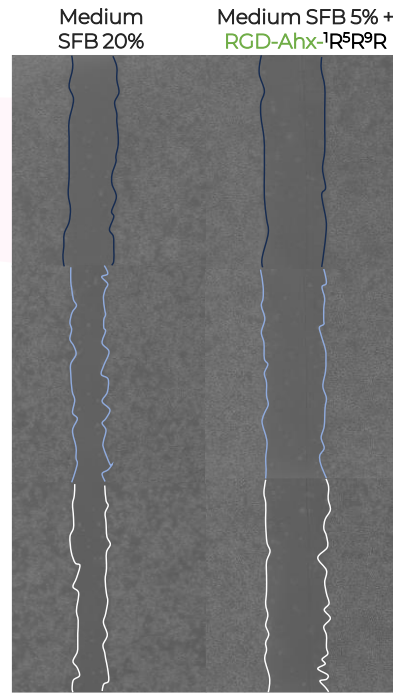
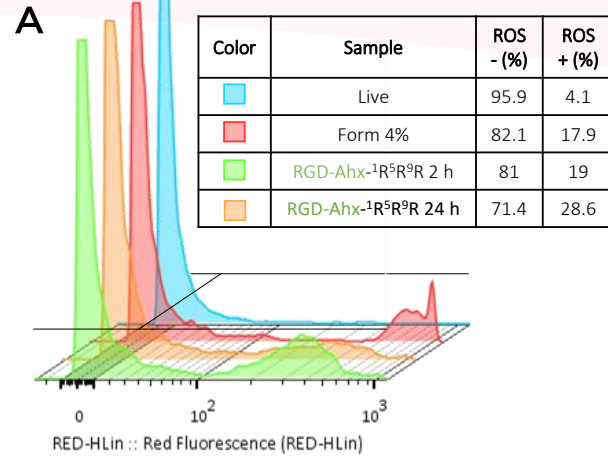
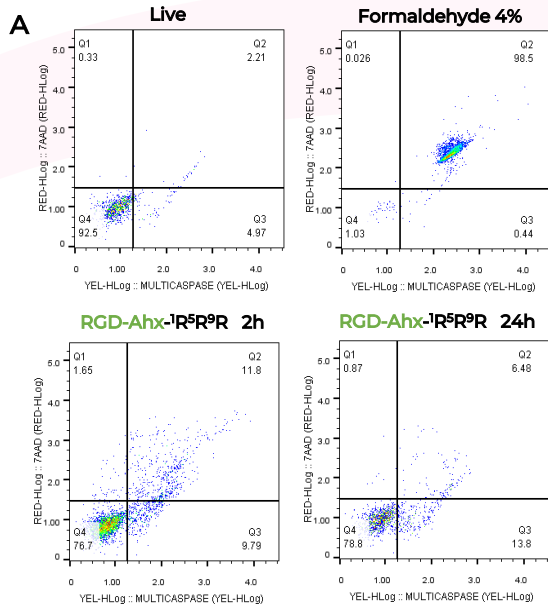
Luminal B



Triple negativo  
A

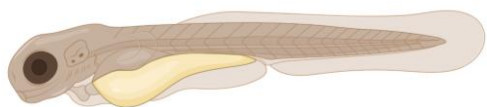


Triple negativo  
B

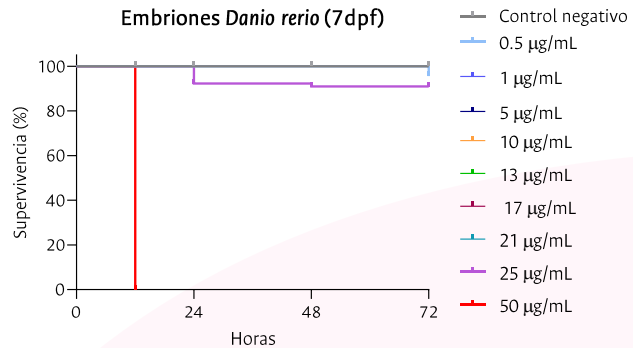


## CONCLUSIÓN

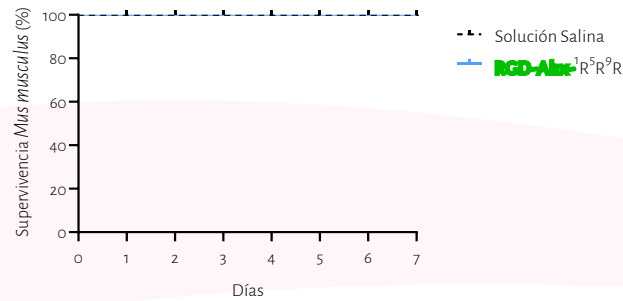
La funcionalización del péptido RWQWRWQWR con el motivo RGD en el extremo N-terminal genera un péptido con mayor efecto citotóxico, que activa la ruta apoptótica, disminuye la migración y se categoriza como ligeramente tóxico en 3 modelos *in vivo* siendo una molécula promisorio para el desarrollo de tratamientos



Embriones *Danio rerio* (7dpf)



Inyección Subcutánea



Inyección Intraperitoneal

