

**Supplemental Table S1: Model parameters**

Parameter	Abbreviation	Value (%CV)	Units	Source
Anetumab raptansine clearance	CL <sub>ADC</sub>	5.6E-04 (3.2%)	L/hr*kg	Model Fitting
Anetumab raptansine distribution clearance	CLD <sub>ADC</sub>	8.7E-04 (20%)	L/hr*kg	Model Fitting
Anetumab raptansine central volume	V <sub>1ADC</sub>	5.3E-02 (3.9%)	L/kg	Model Fitting
Anetumab raptansine peripheral volume	V <sub>2ADC</sub>	5.4E-02 (11%)	L/kg	Model Fitting
Human glomerulus filtration rate	GFR	1.1E-01	L/hr*kg	[1]
DM4 volume of distribution	V <sub>DM4</sub>	3.6E-01 (11%)	L/kg	Model Fitting
DM4 metabolism clearance	CL <sub>met</sub>	2.3E-01 (13%)	L/hr*kg	Model Fitting
S-Methyl-DM4 clearance	CL <sub>SMeDM4</sub>	4.2E-02 (13%)	L/hr*kg	Model Fitting
Association rate constant sdAb:DM4	k <sub>on</sub>	0.68	nM <sup>-1</sup> hr <sup>-1</sup>	In-vitro
Dissociation rate constant sdAb:DM4	k <sub>off</sub>	2.6	hr <sup>-1</sup>	In-vitro
Drug-to-antibody ratio	DAR	3.2	None	[2]
Anti-maytansinoid sdAb central volume	V <sub>1sdAb</sub>	4.1E-2	L/kg	[1]
Anti-maytansinoid sdAb peripheral volume	V <sub>2sdAb</sub>	9.2E-2	L/kg	[1]
Anti-maytansinoid sdAb distribution clearance	CLD <sub>sdAb</sub>	5.5E-2	L/h*kg	[1]

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