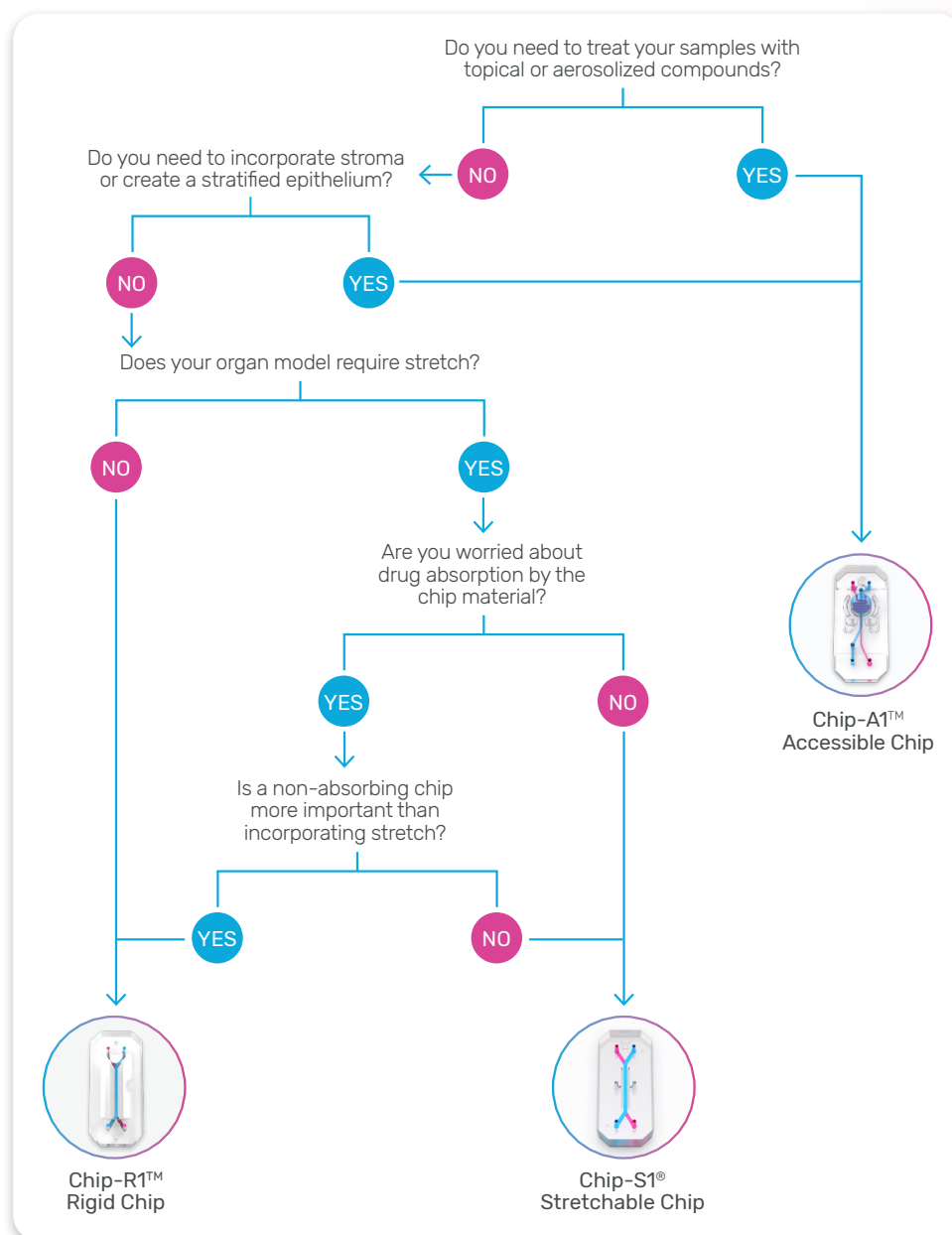


## Which Organ-Chip Design Is Right For You?

Emulate offers three different Organ-Chip consumables for the Human Emulation System:

- Chip-S1<sup>®</sup> Stretchable Chip
- Chip-R1<sup>™</sup> Rigid Chip
- Chip-A1<sup>™</sup> Accessible Chip

Each of these chip designs has unique features that make it better suited for particular organ models and applications. Please use the decision tree below to figure out which chip is best for your research needs.



## Specifications Comparison

Feature	Functionality		
	Chip-S1	Chip-R1	Chip-A1
Independent flow in both channels	Yes	Yes	Yes
Stretch	Yes	No	Yes
Tissue-vascular interface	Yes	Yes	Yes
Air-liquid interface	Yes	Yes	Yes
Compound dosing options	Vascular dosing via Pod Epithelial dosing via Pod	Vascular dosing via Pod Epithelial dosing via Pod	Vascular dosing via Pod Epithelial dosing via Pod Direct topical treatment (top chamber only) Direct aerosolized treatment (top chamber only)

Feature	Organ Models & Applications		
	Chip-S1	Chip-R1	Chip-A1
Recommended biological models	Epithelial-endothelial models that require stretch	Epithelial-endothelial models that do not require stretch  Models that will be treated with lipophilic small molecules	ECM gel-based models  Stratified or 3D Models that require direct epithelial access for compound/drug exposure
Available products	Chip-S1 Basic Research Kit Liver-Chip R1 BioKit Kidney-Chip S1 BioKit Colon Intestine-Chip S1 BioKit Duodenum Intestine-Chip S1 BioKit	Chip-R1 Basic Research Kit Liver-Chip R1 BioKit	Chip-A1 Basic Research Kit

Feature	Technical Specifications		
	Chip-S1	Chip-R1	Chip-A1
Bottom channel height	200 $\mu\text{m}$	100 $\mu\text{m}$	200 $\mu\text{m}$
Top channel height	1,000 $\mu\text{m}$	1,000 $\mu\text{m}$	3,700 $\mu\text{m}$
Maximum bottom channel shear	0.3 dyn/cm <sup>2</sup>	2.3 dyn/cm <sup>2</sup>	0.75 dyn/cm <sup>2</sup>
Maximum flow rate	1,000 $\mu\text{L/hr}$	2,000 $\mu\text{L/hr}$	1,000 $\mu\text{L/hr}$
Membrane pore size	7 $\mu\text{m}$	3 $\mu\text{m}$	7 $\mu\text{m}$
Membrane thickness	50 $\mu\text{m}$	22 $\mu\text{m}$	50 $\mu\text{m}$
Imaging distance from bottom of chip to top of membrane	850 $\mu\text{m}$	172 $\mu\text{m}$	900 $\mu\text{m}$
Chip material	PDMS	Low drug-absorbing rigid plastic with a polycarbonate tissue culture membrane	PDMS