

BioPixS matrix

BioPixS matrix is a flagship BioPixS product, it consists of homogeneous phantoms that could aid the characterization, training of AI, standardization and testing of instruments in biophotonics across a broad range of optical properties relevant to human tissue. This product is a result of explicit interest expressed by the customers to own a matrix kit. This is the most attractive case for customers as they can validate the entire system across the broad range of optical properties.

S. No	Code	Dimension (cylinder)	Optical properties (units cm^{-1})	Application
1	Matrix 100T	X * Y = 1 * 1 cm (square) h = 0.2 - 0.3 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Diffuse reflectance, SFDI imaging
2	Matrix 250R	d = 2.5 cm, h = 1 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Diffusion probe
3	Matrix 300T	X * Y = 3 * 3 cm (square) h = 0.2 - 0.3 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Diffuse reflectance, SFDI imaging
3	Matrix 700R	d = 7.6 cm, h = 4 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Reflectance probe
4	Matrix 800R	d = 8.4 cm, h = 4 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Reflectance, Deep tissue diffusion probe
4	Matrix 800R	d = 8.4 cm, h = 5 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Deep tissue diffusion probe
5	Matrix 900T	d = 8.7 cm, h = 0.5 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Multilayer transmission geometry
5	Matrix 900T	d = 8.7 cm, h = 1 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Multilayer transmission geometry
5	Matrix 900R	d = 9.4 cm, h = 5 cm	$\mu_a = 0.05, 0.1, 0.2, 0.3$ $\mu_s' = 5, 10, 15, 20$	Deep tissue diffusion probe
7	Matrix Custom	Customized	Customized $\mu_a = 0.02 - 1$ $\mu_s' = 5 - 20$	Customized



No. of Phantoms in kit: 16 (4X4), custom Z (mXn)

Broadband Characterization: BioPixS can provide additional service of broadband characterization over (600-1100 nm) range for each phantom in the matrix kit

Lead time: 8-9 weeks

