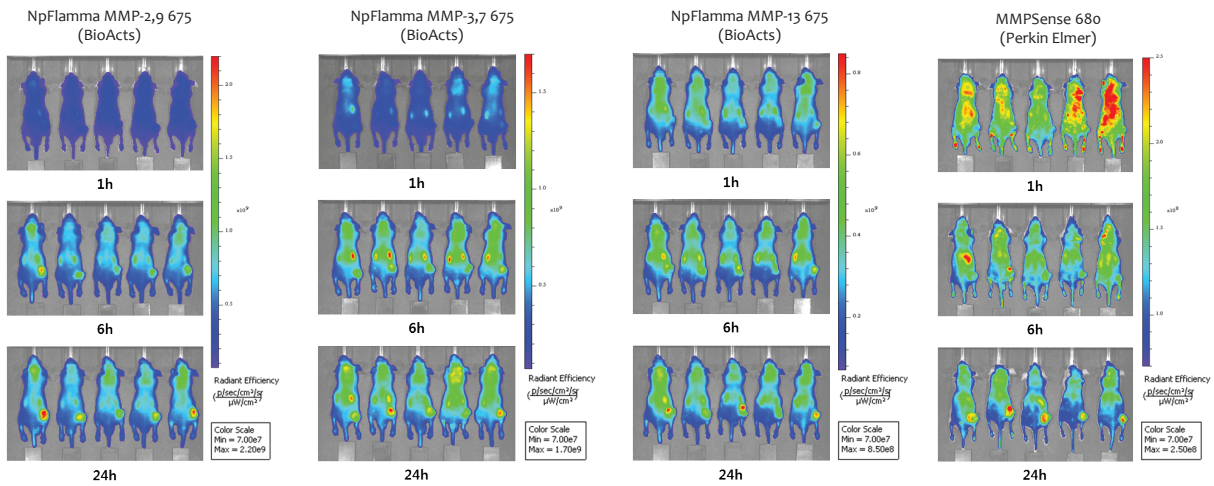
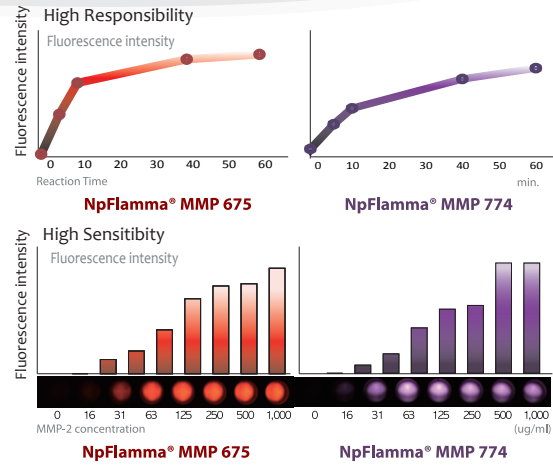
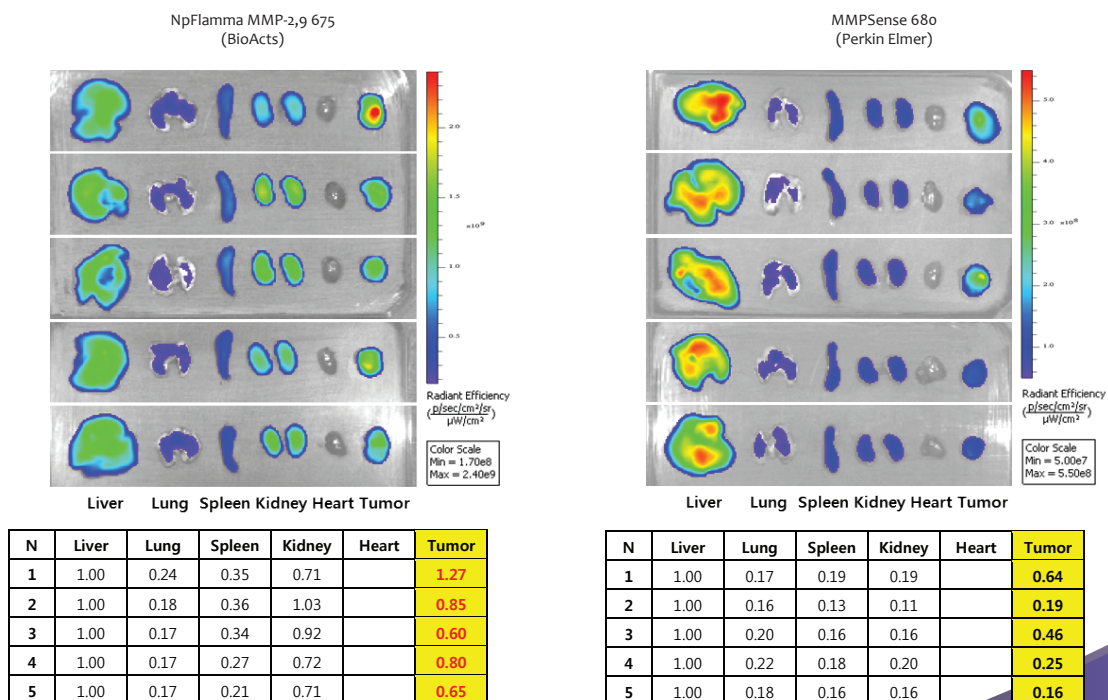


- MMP-activatable smart fluorescent probes for diagnosis of MMP related diseases: cancer progression, invasion, metastasis, etc
- Optically silent becoming fluorescent upon MMP-cleaved activation
- Consisting of fluorescent dye, quencher, MMP-cleavable peptide, and chitosan nanoparticle
- Can be cleaved by various MMPs (MMP-2, -3, -7, -9, -13)

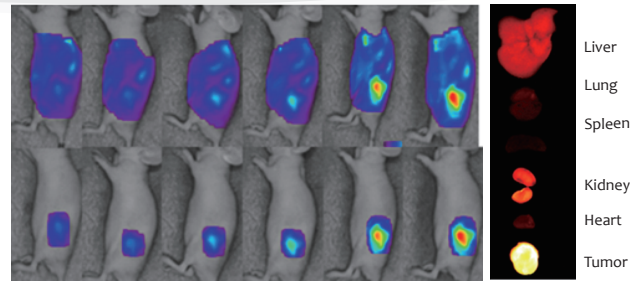


Fluorescence images of three NpFlamma MMPs and MMPsense 680

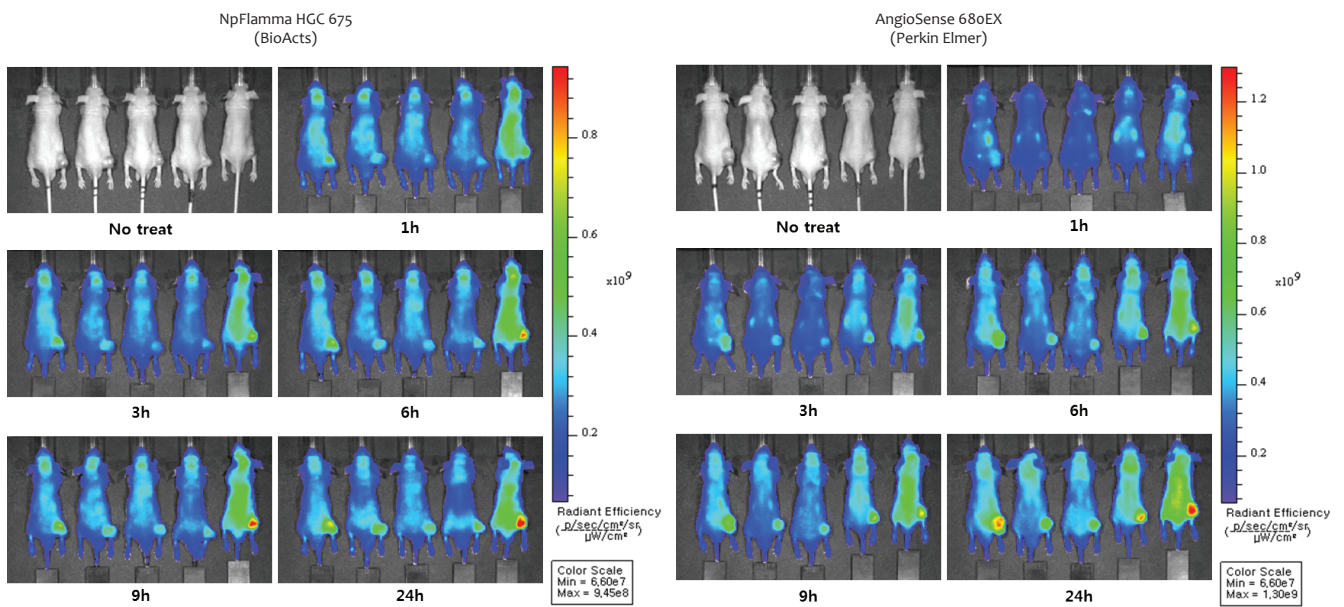


Ex-vivo Image comparison of NpFlamma MMP-2,9 675 and MMPsense 680 at 24 h

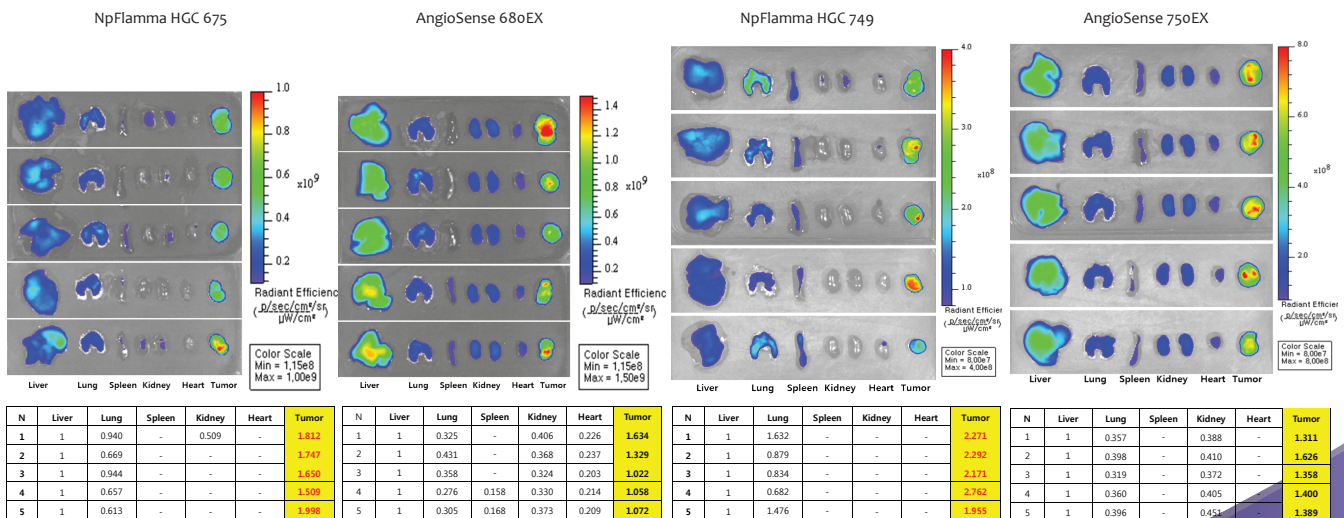
- Chitosan based fluorescent nanoparticles for detecting tumor cells
- Selectively accumulate in cancer tissues due to high permeability for new blood vessels
- Ideal fluorescence probe for angiography and tumor progression



NpFlamma HGC injection for tumor detection

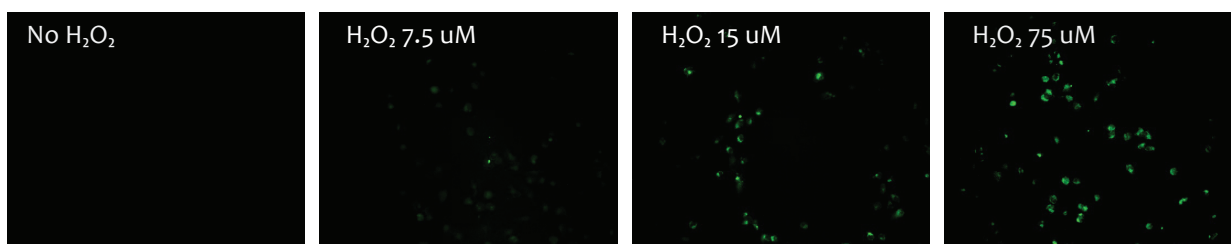
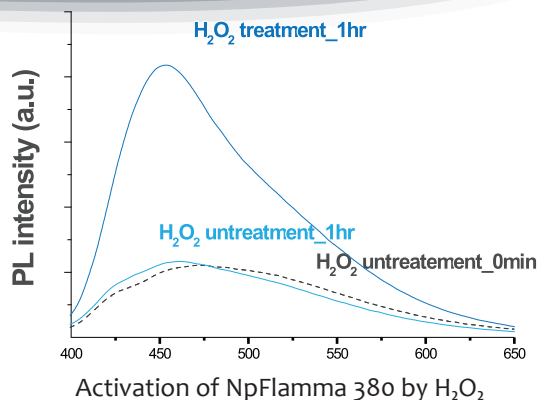


Tumor cell imagings with NpFlamma HGC series



Ex-vivo Image comparison of NpFlamma HGC (675, 749) and AngioSense (680EX, 750EX) at 24 h

- Real-time imaging of cellular H₂O₂ with no background emission
- Colloidal size fluorescent probe for analyzing oxidative processes
- No fluorescence in inactivated state, strong emission by H₂O₂
- Quantitative analysis of H₂O₂ for biological oxidative processes



NpFlamma ROS 380 live cell imaging

HeLa cell was uptaked with 1/100 medium volume of 1 mg/mL NpFlamma ROS 380 for 1 h, treated with H₂O₂, and incubated for 1 h. Image was obtained using FITC filter

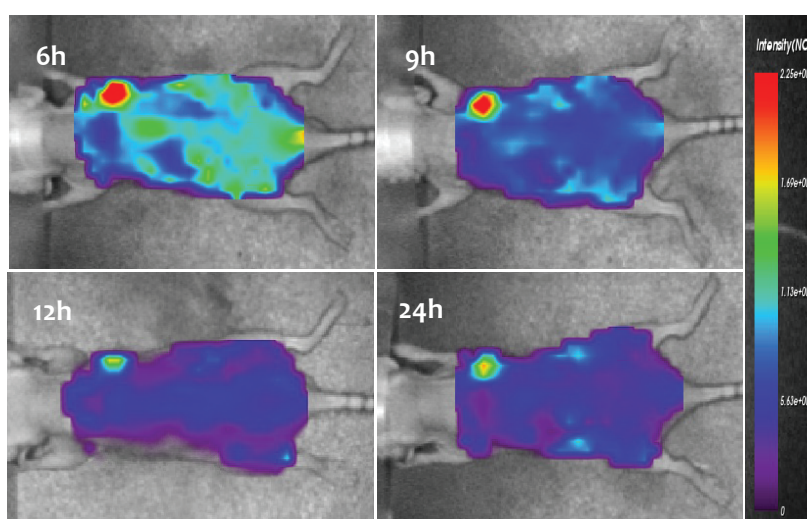
NpFlamma HGC series product list

Cat. No.	Product name	Emission color	Ex (nm)	Em (nm)	Common filter set	Excitation source	Packing unit
PNC1201	NpFlamma [®] HGC 648	● Red	648	675	Cy 5	594, 633 nm	10, 50, 250 doses
PNC1401	NpFlamma [®] HGC 675	● Far red	675	698	Cy 5.5	633, 680 nm	10, 50, 250 doses
PNC1301	NpFlamma [®] HGC 749	● NIR	750	782	Cy 7	680 nm	10, 50, 250 doses
PNC1601	NpFlamma [®] HGC 774	● NIR	777	802	Cy 7.5	785 nm	10, 50, 250 doses
PNC1501	NpFlamma [®] HGC ICG	● NIR	785	821	Cy 7.5	785 nm	10, 50, 250 doses

NpFlamma MMP series product list

Cat. No.	Product name	Emission color	Ex (nm)	Em (nm)	Common filter set	Excitation source	Packing unit
PNM0103	NpFlamma [®] MMP-2,9 648	● Red	653	670	Cy 5	594, 633 nm	10, 50, 100 doses
PNM0104	NpFlamma [®] MMP-2,9 675	● Far red	683	694	Cy 5.5	633, 680 nm	10, 50, 100 doses
PNM0105	NpFlamma [®] MMP-2,9 749	● NIR	760	778	Cy 7	785 nm	10, 50, 100 doses
PNM0106	NpFlamma [®] MMP-2,9 774	● NIR	793	810	Cy 7.5	785 nm	10, 50, 250 doses
PNM0101	NpFlamma [®] MMP-2,9 ICG	● NIR	798	835	Cy 7.5	785 nm	10, 50, 100 doses
PNM0203	NpFlamma [®] MMP-3,7 648	● Red	653	670	Cy 5	594, 633 nm	10, 50, 100 doses
PNM0204	NpFlamma [®] MMP-3,7 675	● Far red	683	694	Cy 5.5	633, 680 nm	10, 50, 100 doses
PNM0205	NpFlamma [®] MMP-3,7 749	● NIR	760	778	Cy 7	785 nm	10, 50, 100 doses
PNM0206	NpFlamma [®] MMP-3,7 774	● NIR	793	810	Cy 7.5	785 nm	10, 50, 250 doses
PNM0201	NpFlamma [®] MMP-3,7 ICG	● NIR	798	835	Cy 7.5	785 nm	10, 50, 100 doses
PNM0303	NpFlamma [®] MMP-13 648	● Red	653	670	Cy 5	594, 633 nm	10, 50, 100 doses
PNM0304	NpFlamma [®] MMP-13 675	● Far red	683	694	Cy 5.5	633, 680 nm	10, 50, 100 doses
PNM0305	NpFlamma [®] MMP-13 749	● NIR	760	778	Cy 7	785 nm	10, 50, 100 doses
PNM0306	NpFlamma [®] MMP-13 774	● NIR	793	810	Cy 7.5	785 nm	10, 50, 250 doses
PNM0301	NpFlamma [®] MMP-13 ICG	● NIR	798	835	Cy 7.5	785 nm	10, 50, 100 doses

Cyclic tripeptide arginine-glycine-aspartate (RGD) is well-known to bind preferentially to $\alpha\beta_3$ integrin with high affinity. Cyclic RGD is an effective ligand for tumor targeting since integrin $\alpha\beta_3$ is overexpressed not only on tumoral endothelium but also on various cancer cells. Thus, targeting tumor cells or tumor vasculature by RGD-based strategies is a promising approach for delivering anticancer drugs or diagnostic agents. Cyclic RGD peptides are also able to bind $\alpha\beta_5$, $\alpha_5\beta_1$, $\alpha_6\beta_4$, $\alpha_4\beta_1$, and $\alpha\beta_6$ integrins, which may help enhance their tumor uptake due to the increased receptor population. BioActs developed AngioFlamma[®] series as effective fluorescent probes for the detection of angiogenesis and tumor cells. The probes are made up of various fluorophores conjugated cyclic RGD. We offer Angio Flamma[®] series as in vivo fluorescent probes for imaging of blood vessels, tumors and angiogenesis.



Breast cancer cell imaging using AngioFlamma 675

AngioFlamma series product list

Cat. No.	Product name	Emission color	Ex _{Max} (nm)	Em _{Max} (nm)	Common filter set	Excitation source	Size
ARW1025	AngioFlamma [®] FAM	● Green	492	519	FITC	488 nm	0.5mg, 1mg, 5mg
ARW1011	AngioFlamma [®] 552	● Yellow	550	565	TRITC	488, 532 nm	0.5mg, 1mg, 5mg
ARR1001	AngioFlamma [®] TAMRA	● Orange	543	575	TRITC	488, 532 nm	0.5mg, 1mg, 5mg
ARW1028	AngioFlamma [®] 560	● Orange	560	589	TRITC	488, 532 nm	0.5mg, 1mg, 5mg
ARW1215	AngioFlamma [®] 648	● Red	648	663	Cy [®] 5	594, 633 nm	0.5mg, 1mg, 5mg
ARW1501	AngioFlamma [®] 675	● Far red	675	691	Cy [®] 5.5	633, 680 nm	0.5mg, 1mg, 5mg
ARW1301	AngioFlamma [®] 749	● NIR	749	774	Cy [®] 7	680 nm	0.5mg, 1mg, 5mg
ARW1601	AngioFlamma [®] 774	● NIR	774	806	Cy [®] 7.5	785 nm	0.5mg, 1mg, 5mg
ARO1601	AngioFlamma [®] ICG	● NIR	785	821	Cy [®] 7.5	785 nm	0.5mg, 1mg, 5mg

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