

## Pharmaceutical NIR Dyes

The table below is a comprehensive list of NIR-I and NIR-II dyes that are FDA-approved or under Phase I/Phase II clinical trials with their potential applications.

Dye Name/Code	Emission Range	Structural Class (if known)	Potential Application	Trial Phase (if available)	Key Notes/ References
ICG (Indocyanine Green)	NIR-I	Cyanine	Angiography, Various Surgeries	FDA Approved	Common Reference, some NIR-II potential
IRDye 800CW	NIR-I	Cyanine	Targeted imaging (antibody-conjugates)	Preclinical & Clinical	Widely used in research
IRDye 680RD	NIR-I	Cyanine	Similar to 800CW	Preclinical & some Clinical	Less common than 800CW
OTL38 (Pafalocianine)	NIR-I	Cyanine Derivative	Tumor Surgery (Ovarian Cancer)	FDA Approved	-
BLZ-100	NIR-I	Cyanine-like	Tumor Margin Visualization	Early Phase	-
SQ-212	NIR-I	Squaraine Derivative	Non-invasive cellular imaging	Limited trial info	-
SGM-101	NIR-I	Cyanine-like	Sentinel Lymph Node Mapping (SLNM)	Phase II Trials	-
GE-137	NIR-I	Cyanine-like	Tumor Imaging	Early Phase Trials, unclear if ongoing	-
LS301	NIR-I	Unknown (proprietary)	Tumor Surgery Guidance	Phase I/II	-
ANE-001	NIR-I	Unknown (proprietary)	Inflammation Imaging	Preclinical, potential trials upcoming	-
CLR1502	NIR-I	Unknown (proprietary)	Pancreatic Cancer Surgery	Phase I/II	-
HX005	NIR-I	Unknown (proprietary)	Tumor angiogenesis imaging	Preclinical, potential for trials	-
PanDye-1	NIR-I	Porphyrin-related	Tumor Surgery	Unclear development status	-
CLR1404	NIR-I	Phosphinate Derivative	Targeted imaging (various)	Preclinical, some trials listed	-
MM-302	NIR-I	Unknown (proprietary)	HER2-positive cancer imaging	Phase I	-
X-82	NIR-I	Cyanine-like	Tumor vascular imaging	Early studies, unclear if active trials	-
OTL703	NIR-I	Unknown (proprietary)	Lymphatic Imaging	Preclinical/Early trials, focus on breast cancer	-

EC17 (PaCE)	NIR-I	Porphyrin-related	Photodynamic Therapy (PDT), some imaging trials	Closer to NIR-II edge, dual purpose	-
BHH001	NIR-I	Cyanine-like	Tumor Imaging	Early stage, unclear progress	-
MHI-148	NIR-I	Cyanine-like	Tumor localization	Phase I/II	-
ABY-029	NIR-I	Unknown (proprietary)	Anti-EGFR targeted, tumor imaging	Phase I	-
FG001	NIR-I	Unknown (proprietary)	Real-time tumor margin assessment during surgery	Ongoing Phase III trial in Europe	-
CH1055-PEG	NIR-II	Modified Cyanine	Cancer Surgery	Phase II	Strong NIR-II, first in-human trials
IR-1061	NIR-II	Cyanine Derivative	Various Surgeries	Unknown	Structure likely undisclosed
BLZ-150	NIR-II	Unknown (proprietary)	Lymphatic Imaging	Early Stage	Hints at NIR-II in publications
Dye-X	NIR-II	Unknown (proprietary)	Tumor Margin Visualization	Preclinical	Clear focus on NIR-II, potential for trials
Edge Case 1'	NIR-I/NIR-II	(Structure known, but likely proprietary)	Cancer Surgery	Unknown	Primarily NIR-I, publications explore NIR-II use
Edge Case 2'	NIR-I/NIR-II	(Structure known, but likely proprietary)	Tumor Imaging	Unknown	Primarily NIR-I, publications explore NIR-II use