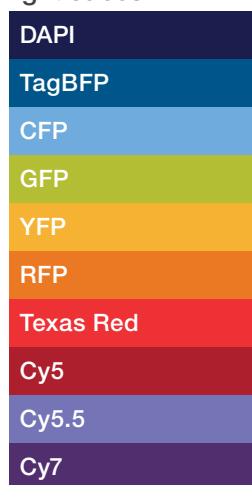


Cell analysis

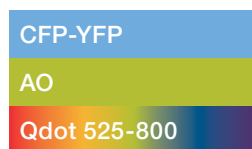
EVOS Light Cube selection guide

Invitrogen™ EVOS™ Light Cubes integrate LEDs and high-performance filters in a novel illumination system that is designed to deliver precise control, minimal maintenance, and exceptional reliability. These LED cubes are compatible with Invitrogen™ EVOS™ imaging systems as well as the Invitrogen™ Countess™ FL Automated Cell Counter. Use the selection guide below to choose the light cube that best matches your dye.

Commonly used light cubes



Speciality light cubes

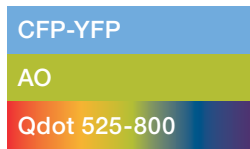


Light cube	Dye	Abs peak	Em peak	Spectral match
DAPI (357/44 Ex; 447/60 Em) Cat. No. AMEP4950	1,8-ANS	372	480	Excellent
	4-methylumbelliferone	360	440	Excellent
	7-amino-4-methylcoumarin (AMC)	351	430	Excellent
	7-hydroxy-4-methylcoumarin	360	449	Excellent
	ABQ	344	445	Excellent
	Acridine	362	462	Excellent
	Alexa Fluor 350	346	442	Excellent
	Alexa Fluor 405	401	421	Fair
	AMCA	345	425	Excellent
	AMCA-X	353	442	Excellent
	BFP	382	448	Excellent
	CellTrace Calcein Blue	373	440	Excellent
	CellTrace Calcein Violet	401	451	Good
	Calcofluor White	350	440	Excellent
	Cascade Blue	377	420	Good
	Dansyl	335	525	Fair
	DAPI	345	455	Excellent
	DiFMU (pH 9.0)	357	450	Excellent
	DyLight 350	353	432	Excellent
	ER-Tracker Blue-White DPX	371	554	Fair
	Fast Blue	360	440	Excellent
	FluoSpheres Blue	356	412	Excellent
	Hoechst 33258	345	487	Excellent
	Hoechst 33342	347	483	Excellent
LIVE/DEAD Fixable Blue Dead Cell Stain	344	442	Excellent	
LysoSensor Blue	374	424	Excellent	
LysoTracker Blue	373	422	Excellent	
Marina Blue	365	460	Excellent	

Commonly used light cubes



Speciality light cubes



Light cube	Dye	Abs peak	Em peak	Spectral match
DAPI (357/44 Ex; 447/60 Em) Cat. No. AMEP4950	Methoxycoumarin	360	410	Good
	Monochlorobimane (mBCI)	380	461	Good
	NucBlue Fixed Cell Stain	345	455	Excellent
	NucBlue Live Cell Stain	347	483	Excellent
	Pacific Blue	405	455	Fair
	PBFI	360	420	Good
	Phorwite AR	360	430	Good
	Quinine sulfate	349	461	Excellent
	sgBFP (Super Glow BFP)	387	450	Good
	SITS	365	460	Good
	SpectrumBlue	405	449	Excellent
	Thioflavin TCN	350	460	Excellent
	Thiolyte	378	483	Good
	True Blue	365	425	Excellent
Uvitex SFC	365	435	Excellent	
Y66H	360	442	Excellent	
TagBFP (390/18 Ex; 447/60 Em) Cat. No. AMEP4968	Alexa Fluor 405	401	421	Excellent
	DyLight 405	400	420	Excellent
	BFP	382	448	Good
	Cascade Blue	400	420	Excellent
	Pacific Blue	410	455	Excellent
	SpectrumBlue	400	450	Excellent
	TagBFP	402	457	Excellent
CFP (445/45 Ex; 510/42 Em) Cat. No. AMEP4953	Auramine O	445	500	Excellent
	CellLight CFP*	434	477	Excellent
	ECFP	434	477	Excellent
	Evans Blue	460	515	Excellent
	Lucifer Yellow	428	544	Excellent

* For a complete list of CellLight reagents, please go to thermofisher.com/celllight

Commonly used light cubes

DAPI
TagBFP
CFP
GFP
YFP
RFP
Texas Red
Cy5
Cy5.5
Cy7

Speciality light cubes

CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
GFP (482/25 Ex; 524/24 Em) Cat. No. AMEP4951	5-carboxyfluorescein (5-FAM)	492	518	Good
	Acridine Orange + DNA	500	526	Good
	Acridine Yellow	470	550	Excellent
	ActinGreen 488 (Alexa Fluor 488 phalloidin)	496	518	Excellent
	Alexa Fluor 430	432	540	Good
	Alexa Fluor 488	496	518	Excellent
	ATTO 465	453	507	Excellent
	Auramine	460	540	Excellent
	Aurophosphine	470	540	Excellent
	BCECF	499	540	Good
	BODIPY 492/515	490	540	Good
	BODIPY 505/515	502	540	Good
	BODIPY FL	502	540	Good
	BTC	464	540	Excellent
	Calcein	494	540	Good
	Calcium Green-1	506	540	Fair
	Catskill Green 540	482	540	Excellent
	CellLight GFP*	488	507	Excellent
	CellEvent Caspase-3/7 Green	488	507	Excellent
	CellTracker Green	490	540	Excellent
	CellROX Green	485	520	Excellent
	CFDA	494	540	Good
	CFP	434	540	Fair
	Click-iT EdU Alexa Fluor 488	496	518	Excellent
	Cy2	492	540	Excellent
	CyQUANT Direct (CyQUANT GR)	500	540	Excellent
	DAF-FM	493	540	Good
	DiO (Vybrant DiO)	489	506	Excellent
	Diversa Green-FP	484	507	Excellent
	DyLight 488	493	518	Excellent
	Emerald Green	490	540	Good
	Evans Blue	460	515	Good
	FITC (fluorescein)	492	520	Good
	Fluo-3	506	540	Good
	Fluo-4	494	540	Good
	Fluoro-Emerald	494	518	Good
	Fluoro-Jade B	480	525	Excellent
	Fluor-X	494	520	Good
	FluoSpheres Yellow-Green	501	513	Good
	GFP (EGFP)	488	507	Excellent
	H ₂ DCFDA (H ₂ -DCF, DCFR)	504	540	Good

Commonly used light cubes

DAPI
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RFP
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Cy5
Cy5.5
Cy7

Speciality light cubes

CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
GFP (482/25 Ex; 524/24 Em) Cat. No. AMEP4951	HCS LipidTOX Green	498	506	Fair
	HPTS (Solvent Green 7)	455	510	Excellent
	LIVE/DEAD Fixable Green	498	526	Good
	Lucifer yellow	423	543	Fair
	LysoSensor Green	448	503	Excellent
	LysoTracker Green	504	511	Good
	Magnesium Green	506	530	Fair
	mHoneydew	478	561	Excellent
	MitoTracker Green FM	490	512	Excellent
	NBD amine	450	530	Excellent
	NBD-X	467	538	Excellent
	NeuroTrace 500/525 Green	497	524	Excellent
	Nitrobenzoxadiazole	465	510	Excellent
	NucGreen Dead Cell Stain	504	523	Good
	Oregon Green 488	498	524	Good
	Oregon Green 514	512	532	Fair
	pHrodo Green	509	533	Good
	Premo FUCCI Cell Cycle Sensor (S/G2/M phases)	474	509	Excellent
	Qdot 525	UV	525	Fair
	Qdot 545	UV	543	Fair
	Quant-iT PicoGreen	502	522	Good
	Rhodamine 110	496	520	Good
	Rhodamine 123	507	529	Fair
	Rhodamine Green	497	523	Good
	Rhodol Green	496	523	Good
	rsGFP (Red-shifted GFP, S65T)	498	516	Good
	S65C	479	507	Good
	S65L	484	510	Good
	S65T	488	511	Good
	sgGFP (Super Glow GFP)	474	509	Excellent
	Sodium Green	506	532	Good
	SpectrumGreen	498	522	Good
	Surf Green EX	469	526	Excellent
SYBR Gold	495	439	Fair	
SYBR Green I	497	521	Good	
SYBR Safe	507	524	Good	
SYTO 11	506	525	Fair	
SYTO 13	487	505	Good	

Commonly used light cubes

DAPI
TagBFP
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GFP
YFP
RFP
Texas Red
Cy5
Cy5.5
Cy7

Speciality light cubes

CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
GFP (482/25 Ex; 524/24 Em) Cat. No. AMEP4951	SYTO 16	490	520	Excellent
	SYTO 45	452	484	Good
	SYTO 9	482	500	Excellent
	SYTO RNASelect	503	527	Good
	SYTOX Green	504	523	Good
	TET	520	541	Fair
	TO-PRO-1	515	530	Fair
	TOTO-1	513	531	Fair
	Vybrant DyeCycle Green	505	532	Good
	wtGFP (Wild-type GFP, non-UV excitation)	475	509	Excellent
	YFP	512	529	Fair
	YO-PRO-1	491	507	Excellent
	YOYO-1	491	509	Excellent

* For a complete list of CellLight reagents, please go to thermofisher.com/celllight

YFP (500/24 Ex; 542/27 Em) Cat. No. AMEP4954	Acridine Orange + DNA	500	526	Good
	EYFP	514	527	Excellent

RFP (542/20 Ex; 593/40 Em) Cat. No. AMEP4952	ActinRed 555 (rhodamine phalloidin)	540	565	Excellent
	Alexa Fluor 532	532	554	Fair
	Alexa Fluor 546	561	572	Good
	Alexa Fluor 555	555	565	Excellent
	Amplex Red	571	583	Excellent
	Amplex UltraRed	568	583	Excellent
	BOBO-3	570	602	Good
	BODIPY TMR	544	569	Excellent
	Calcium Orange	549	575	Excellent
	Carboxy SNARF-1	548	587	Excellent
	CellLight RFP*	552	585	Excellent
	Ethidium homodimer-1 (EthD-1)	530	618	Excellent
	FluoSpheres Orange	539	560	Good
	FocalCheck Double Orange	540	555	Good
	HCS LipidTox Red	582	615	Fair
	HEX	533	558	Excellent
	JOJO-1	529	545	Good
	LIVE/DEAD Fixable Red	593	613	Fair
	mBanana	540	553	Good
	MitoTracker Orange CMTMRos	551	576	Excellent

Commonly used light cubes

DAPI
TagBFP
CFP
GFP
YFP
RFP
Texas Red
Cy5
Cy5.5
Cy7

Speciality light cubes

CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
RFP (542/20 Ex; 593/40 Em) Cat. No. AMEP4952	MitoTracker Orange CM-H ₂ TMRos	551	576	Excellent
	MitoTracker Red CMXRos	578	599	Good
	MitoTracker Red CM-H ₂ XRos	578	599	Good
	mOrange	548	568	Good
	mTangerine	568	585	Good
	Nile Red	551	636	Good
	OFFP	546	568	Excellent
	pHrodo Red	559	586	Excellent
	Phycoerythrin (R-phycoerythrin (R-RE))	567	576	Excellent
	POPO-3	532	573	Excellent
	PO-PRO-3	539	570	Excellent
	Premo FUCCI Cell Cycle Sensor (G1 phase)	555	584	Excellent
	Propidium iodide (PI)	530	618	Good
	Resorufin	570	585	Excellent
	RFP	552	585	Excellent
	Rhod-2	551	576	Excellent
	Rhodamine phalloidin	557	576	Excellent
	Rhodamine Red	560	580	Good
	ROX (6-ROX)	568	595	Good
	SpectrumOrange	559	588	Excellent
	Sulforhodamine 101	578	593	Good
	SYTOX Orange	567	570	Excellent
	TagRFP	555	584	Excellent
	TAMRA	565	580	Excellent
TET	521	542	Fair	
Tetramethylrhodamine (TRITC)	555	580	Excellent	
TurboRFP	553	574	Excellent	
Vybrant DyeCycle Orange	518	562	Excellent	
X-Rhod-1	570	576	Good	

* For a complete list of CellLight reagents, please go to thermofisher.com/celllight

Texas Red (585/29 Ex; 628/32 Em) Cat. No. AMEP4955	2-dodecylresorufin	582	595	Good
	5-ROX	577	603	Excellent
	7-AAD	549	644	Good
	Alexa Fluor 568	578	603	Good
	Alexa Fluor 594	590	618	Excellent
	Alexa Fluor 610	610	629	Good
	Amplex Red	570	583	Fair
	Amplex Ultra Red	567	582	Fair

Commonly used light cubes

DAPI
TagBFP
CFP
GFP
YFP
RFP
Texas Red
Cy5
Cy5.5
Cy7

Speciality light cubes

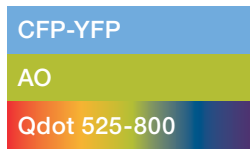
CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
Texas Red (585/29 Ex; 628/32 Em) Cat. No. AMEP4955	BOBO-3	571	606	Good
	BODIPY 630/650-X	625	641	Fair
	BODIPY TR-X	588	621	Excellent
	Calcium Crimson	589	608	Excellent
	CellTrace BODIPY TR Methyl Ester	597	625	Excellent
	CellTrace Calcein Red-Orange	575	592	Fair
	CellTracker Red CMTPX	584	613	Excellent
	Click-iT Alexa Fluor 594	590	618	Excellent
	Cy3.5	581	597	Good
	DsRed2	563	588	Fair
	DyLight 594	593	618	Excellent
	FluoSpheres Crimson Microspheres	620	646	Good
	FluoSpheres Red Microspheres	577	608	Excellent
	HCS CellMask Red Stain	587	614	Excellent
	HCS LipidTOX Red	582	615	Excellent
	HCS NuclearMask Red	624	644	Fair
	HcRed	594	649	Fair
	Katushka (Turbo FP635)	588	635	Excellent
	LIVE/DEAD Fixable Red Dead Cell Stain	595	613	Excellent
	LysoTracker Red	573	592	Good
	Magic Red	570	630	Good
	MitoTracker Red CMXRos	578	597	Excellent
	mCherry	587	615	Excellent
	mKate	588	635	Excellent
	mPlum	590	649	Fair
	mRaspberry	598	625	Good
	Nile Red phospholipid	551	638	Excellent
	pHrodo Red	559	587	Fair
	ReAsH (TC-ReAsH)	593	608	Excellent
	Rhodamine Red-X	572	591	Good
	Sulforhodamine 101	577	593	Good
	SYTO 17	620	635	Good
	SYTO 59	622	645	Fair
SYTO 61	619	649	Fair	
SYTOX AADvanced Dead Cell Stain	546	647	Good	
Texas Red	592	615	Excellent	
X-rhod-1	579	602	Excellent	
YO-PRO-3	612	628	Good	
YOYO-3	612	631	Good	

Commonly used light cubes



Speciality light cubes



Light cube	Dye	Abs peak	Em peak	Spectral match
Cy5 (635/18 Ex; 692/40 Em) Cat. No. AMEP4956	Alexa Fluor 633	631	650	Good
	Alexa Fluor 635	634	647	Fair
	Alexa Fluor 647	650	670	Good
	Alexa Fluor 660	663	691	Excellent
	Alexa Fluor 680	679	704	Good
	APC (Allophycocyanin)	651	660	Good
	BODIPY 630/650-X	626	641	Fair
	BODIPY 650/665	647	665	Good
	Carboxynaphthofluorescein	600	674	Excellent
	CellMask Deep Red Plasma Membrane Stain	658	676	Good
	CellROX Deep Red	640	665	Good
	Click-iT Alexa Fluor 647	650	670	Good
	Cy5	648	666	Excellent
	Cy5.5	678	696	Good
	DDAO	648	658	Good
	DiD (Vybrant DiD)	645	670	Excellent
	DRAQ5	650	680	Excellent
	DyLight 633	638	658	Good
	DyLight 649	654	673	Good
	FluoSpheres Crimson Microspheres	621	646	Good
	FluoSpheres Dark Red Microspheres	657	683	Excellent
	FocalCheck Far Red	669	692	Good
	FxCycle Far Red	641	657	Good
	HCS CellMask Deep Red Stain	649	670	Excellent
	HCS LipidTOX Deep Red	634	652	Good
	HCS NuclearMask Deep Red	635	687	Excellent
	HCS NuclearMask Red	622	644	Good
	LIVE/DEAD Fixable Far Red	650	665	Excellent
	LysoTracker Deep Red	647	668	Good
	MitoTracker Deep Red FM	641	661	Good
	NucRed Dead 647	642	657	Good
	NucRed Live 647	638	686	Excellent
	SYTO 17	619	638	Fair
	SYTO 59	621	644	Good
SYTO 60	649	681	Excellent	
SYTO 62	650	681	Excellent	
SYTOX Red	640	658	Good	
TO-PRO-3	642	657	Good	
TOTO-3	642	661	Good	
Vybrant DyeCycle Ruby	638	686	Excellent	

Commonly used light cubes

DAPI
TagBFP
CFP
GFP
YFP
RFP
Texas Red
Cy5
Cy5.5
Cy7

Speciality light cubes

CFP-YFP
AO
Qdot 525-800

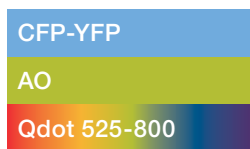
Light cube	Dye	Abs peak	Em peak	Spectral match
Cy5.5 (655/46 Ex; 794/160 Em) Cat. No. AMEP4973	Alexa Fluor 660	663	691	Fair
	Alexa Fluor 680	679	702	Good
	Alexa Fluor 700	696	719	Good
	ATTO 635	635	658	Fair
	ATTO 647	644	670	Fair
	ATTO 655	663	683	Fair
	ATTO 680	680	700	Good
	ATTO 700	699	719	Fair
	Cy5.5	672	690	Excellent
	DY-675	675	699	Good
	DyLight 680	676	705	Good
	FluoSpheres Dark Red Fluorescent Microspheres	656	683	Fair
	HiLyte Fluor 680	688	702	Good
	IRDye 680 NHS Ester	683	710	Fair
	IRDye 700 Phosphoramidite	691	699	Fair
Qdot 705 Nanocrystals	300	702	Fair	
Quasa 705	688	706	Fair	
SYTO 60	650	681	Fair	
Cy7 (716/40 Ex; 794/32 Em) Cat. No. AMEP4967	CellVue NIR780	743	776	Excellent
	Cy7	745	766	Excellent
	DyLight 750	752	778	Excellent
	Indocyanine Green	768	807	Fair
	IRDye 800CW	774	789	Good
	XenoLight CF770	770	797	Excellent
CFP-YFP (445/45 Ex; 542/27 Em) Cat. No. AMEP4969	CFP	434	477	Control YFP emission

Notes: CFP-YFP FRET applications require CFP excitation coupled with a YFP emission filter.

Commonly used light cubes



Speciality light cubes



Light cube	Dye	Abs peak	Em peak	Spectral match
Notes: Acridine orange has a longpass filter.				
AO (470/22 Ex; 488LP Em) Cat. No. AMEP4970	Acridine Orange + RNA	460	650	Excellent
	Acridine Orange + DNA	500	526	Good
	Alexa Fluor 430	434	540	Excellent
	AmCyan	548	489	Excellent
	Auramine O	460	550	Excellent
	CTC formazan	450	630	Excellent
	Di-8-ANEPPS	468	635	Excellent
	DiA (FAST DiA)	491	613	Excellent
	Lucifer Yellow	428	544	Excellent
	LysoSensor Green (pH 5)	442	505	Excellent
PerCP	488	675	Good	
Qdot 525-800 Cat. No. AMEP4966	Acridine Orange + DNA	500	526	Fair
	Acridine Orange + RNA	460	650	Fair
	Alexa Fluor 430	432	540	Excellent
	Alexa Fluor 488	496	518	Fair
	BCECF (pH 5.2)	499	540	Excellent
	BOBO-1	570	602	Good
	Calcein	494	540	Fair
	5-carboxyfluorescein (5-FAM)	492	518	Fair
	CellTracker Green CMFDA	490	540	Good
	CellTracker Violet BMQC	415	516	Good
	CFP	434	540	Good
	Cy2	492	540	Good
	CyQUANT Direct	500	540	Fair
	DAF-FM	493	540	Fair
	Di-8-ANEPPS	465	635	Excellent
	DiA	456	590	Excellent
	DiO	484	501	Good
	NBD-X	467	538	Excellent
	NeuroTrace 500/525 Nissl Stain	497	524	Good
	Nile Red (triglyceride)	552	636	Fair
Oregon Green 488	498	524	Fair	
Pacific Orange	440	551	Good	
POPO-1	434	456	Fair	
PO-PRO-1	435	455	Fair	

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CFP-YFP
AO
Qdot 525-800

Light cube	Dye	Abs peak	Em peak	Spectral match
Qdot 525-800 Cat. No. AMEP4966	Qdot 525	UV	525	Excellent
	Qdot 545	UV	545	Excellent
	Qdot 565	UV	565	Excellent
	Qdot 585	UV	585	Excellent
	Qdot 605	UV	605	Excellent
	Qdot 625	UV	625	Excellent
	Qdot 655	UV	655	Excellent
	Qdot 705	UV	705	Excellent
	Qdot 800	UV	800	Excellent
	RH 795	530	712	Good
	Rhodamine 110	496	520	Fair
	Rhodamine Green	497	523	Fair
	SYBR Gold	495	539	Fair
	SYBR Green I	497	521	Fair
	SYPRO Ruby	450	618	Excellent
	SYTO 9	482	500	Good
	SYTO 13	487	505	Good
	SYTO 16	490	520	Good
	SYTO 45	452	484	Good
	SYTO RNASelect	503	527	Fair
SYTOX Blue	444	480	Fair	
ThiolTracker Violet	405	526	Good	
YO-PRO-1	491	507	Fair	
YOYO-1	491	509	Good	

Learn more at thermofisher.com/evoslightcubes

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