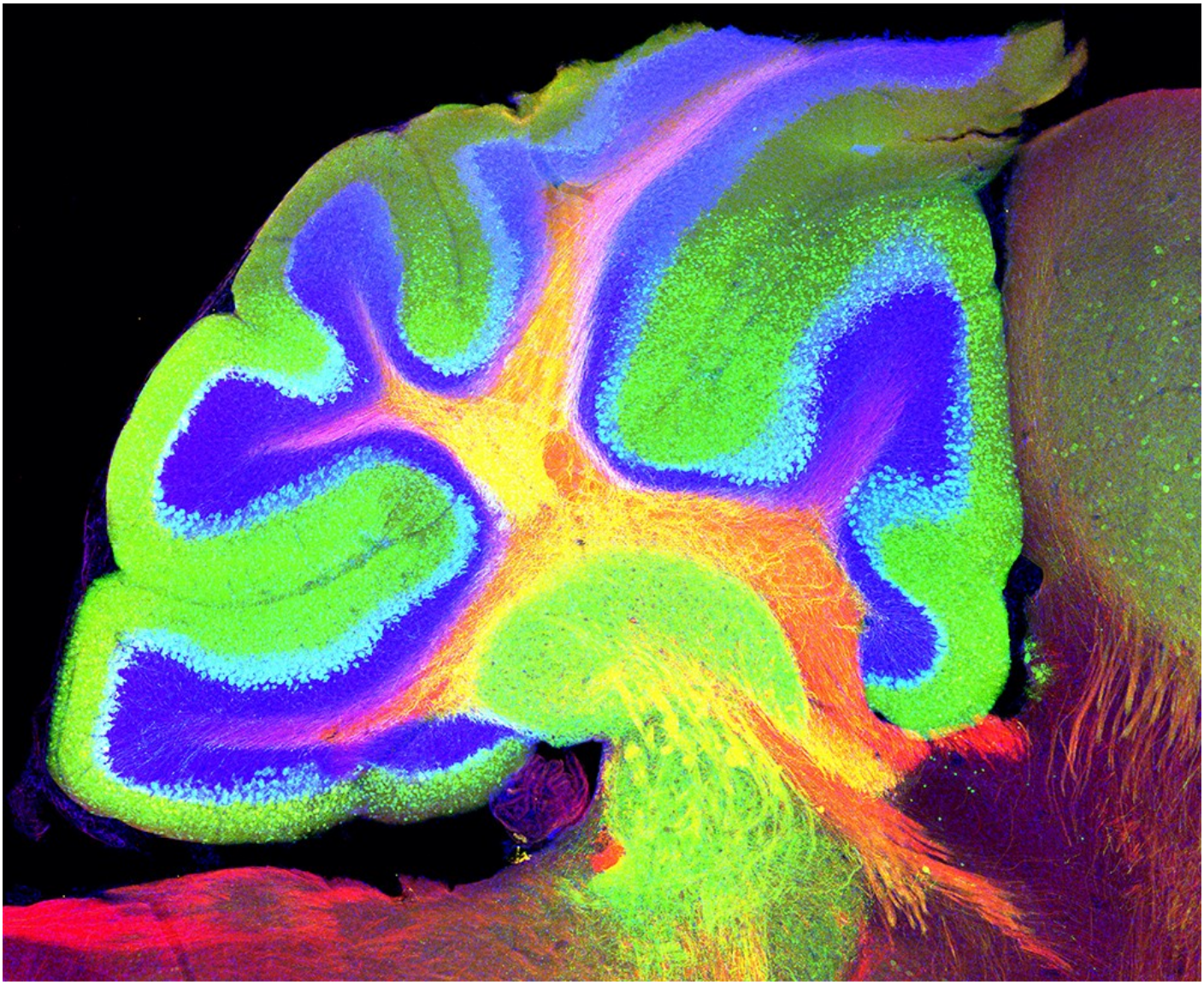
Fluorescence Imaging

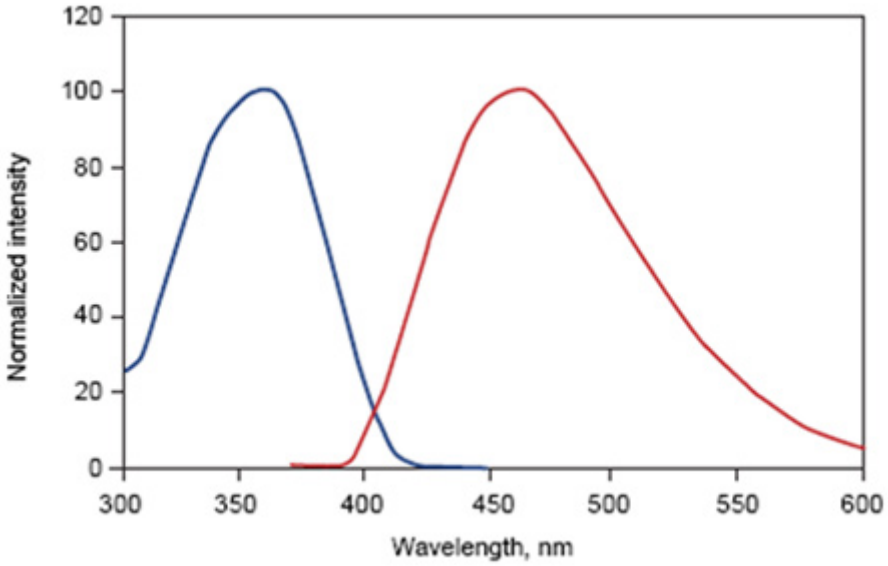
Why Fluorescence:

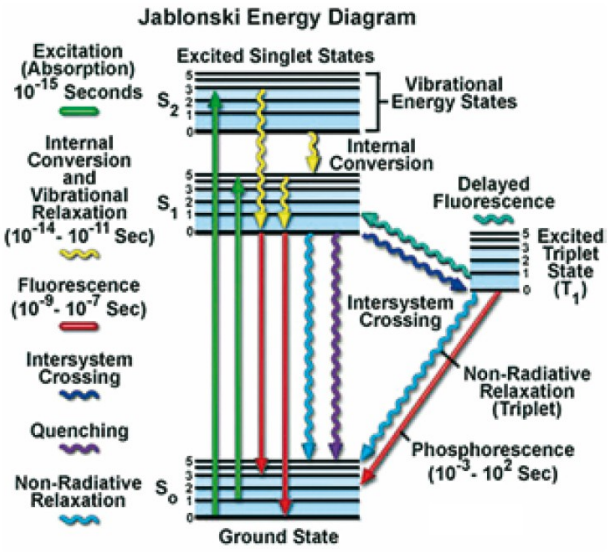
We can label what we want to see

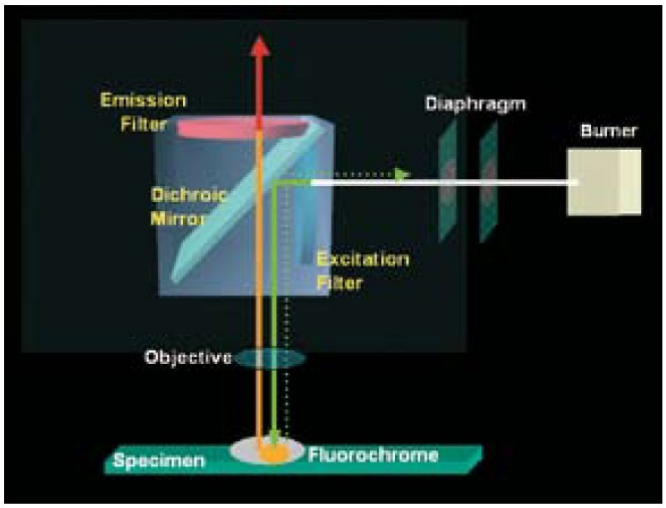


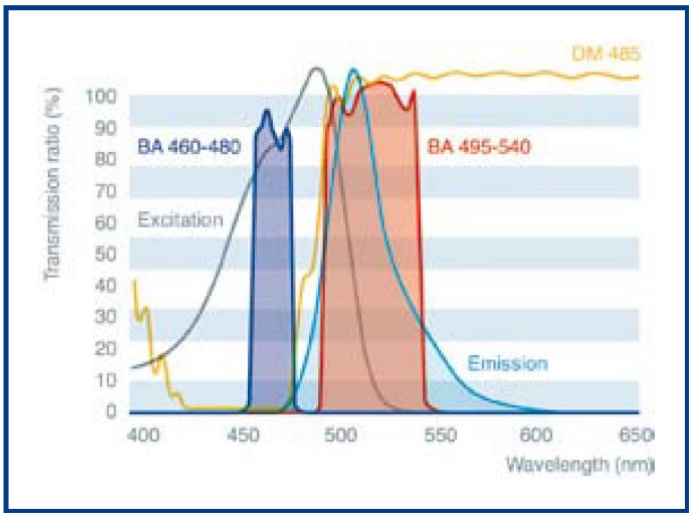
Excitation and Emission

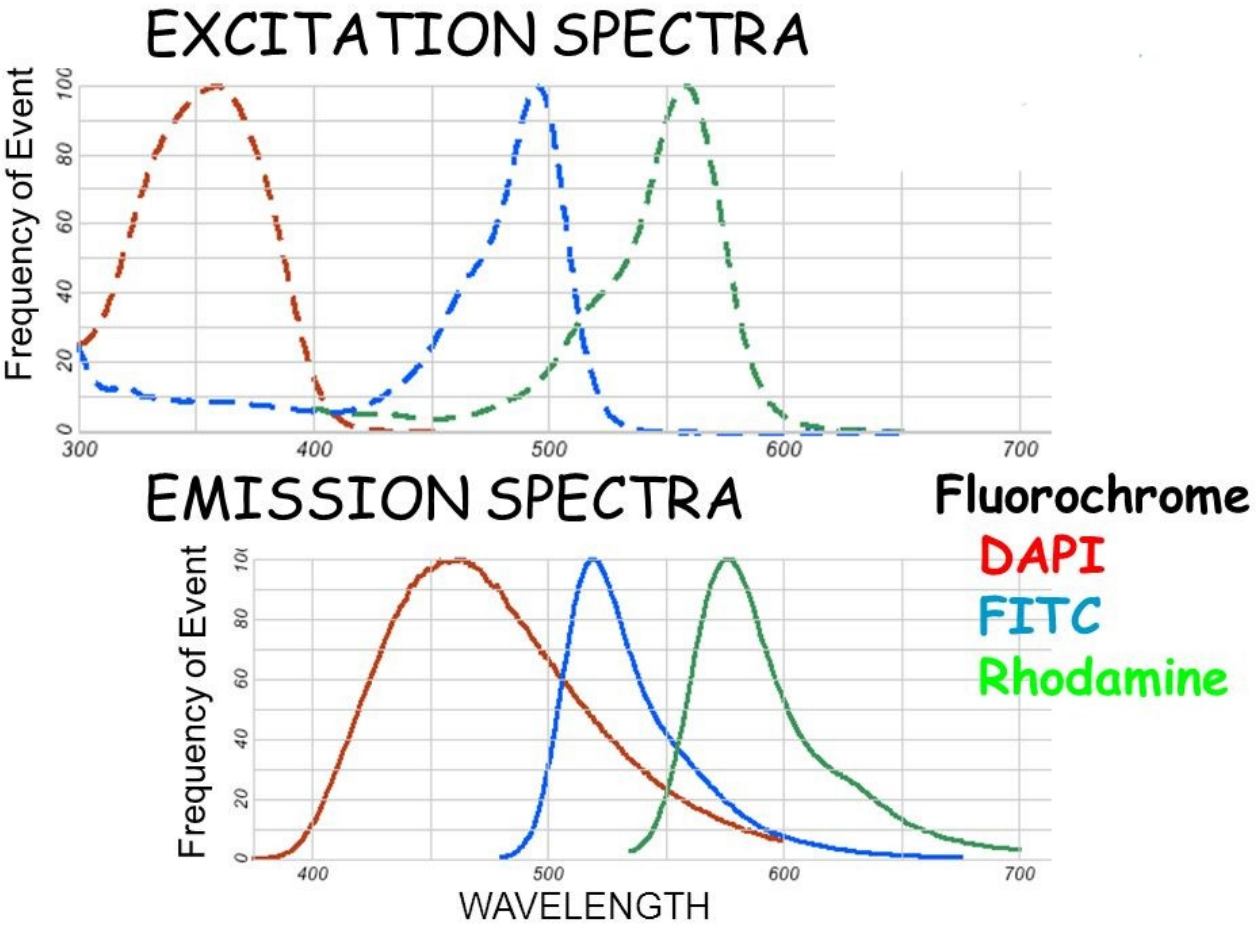
Dapi


Normalized intensity
120
100
80
60
40
20
0
300
350
400
450
500
550
600
Wavelength, nm

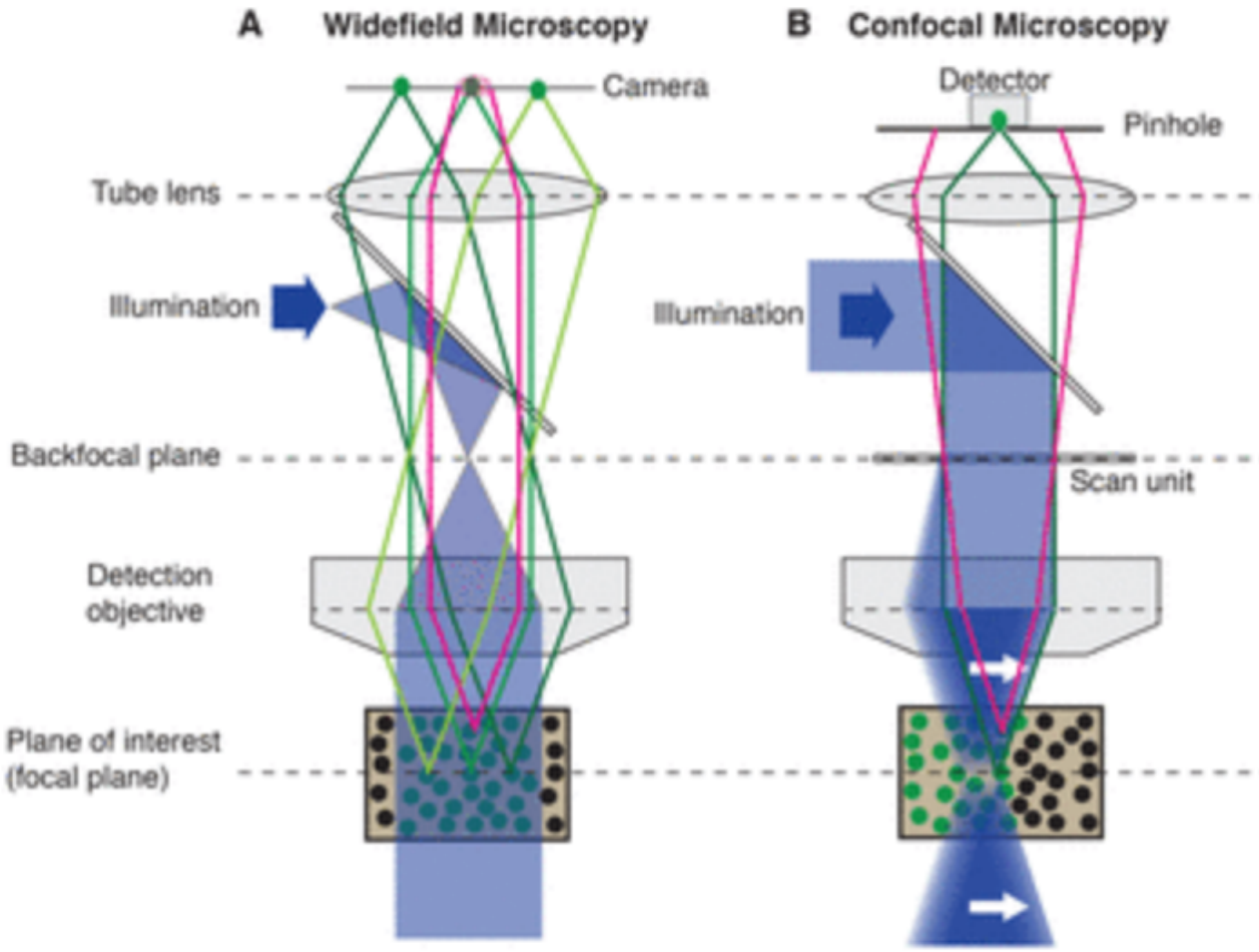

Jablonski Energy Diagram
Excitation (Absorption) 10^{-15} Seconds
Excited Singlet States
S_2
Vibrational Energy States
Internal Conversion
Internal Conversion and Vibrational Relaxation (10^{-14} - 10^{-11} Sec)
S_1
Delayed Fluorescence
Excited Triplet State (T_1)
Fluorescence (10^{-9} - 10^{-7} Sec)
Intersystem Crossing
Intersystem Crossing
Non-Radiative Relaxation (Triplet)
Quenching
Phosphorescence (10^{-3} - 10^{2} Sec)
Non-Radiative Relaxation
S_o
Ground State







Widefield vs Confocal



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