

## ***Dyes***

### **Application:**

- staining of DNA
- covalent labeled probe molecules

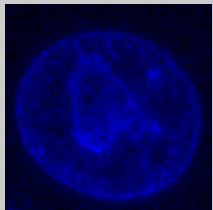
### **Pro:**

- fast and easy to use

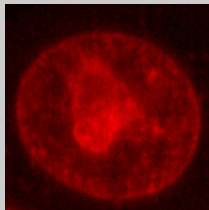
### **Con:**

- cytotoxicity
- different labeling properties

**Hoechst33258/  
DNA**



**DRAQ5/  
DNA**



## ***Fluorescent proteins and fusion constructs***

### **Application:**

- labeling of chromatin and chromatin subsets
- label for proteins
- use as probe molecules

### **Pro:**

- available in many colors
- specific labeling of nuclear structures
- dynamic studies with photo bleaching and photoactivation

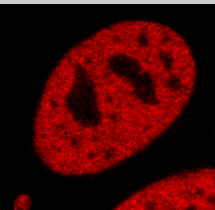
### **Con:**

- time until expression
- transfection rate unpredictable
- protein overexpression

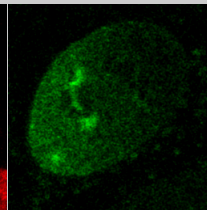
**MeCP2-GFP/  
chromocenter**



**H2B-mRFP/  
chromatin**



**GFP  
photoactivation**



## ***Fluorescence labeled cell penetrating peptides***

### **Application:**

- labeling of nucleoli

### **Pro:**

- labeling with many dyes
- easy to use
- no cytotoxic effects at low concentrations

### **Con:**

- variable labeling time
- no control over amount of delivered peptide

**FITC-D-R10/  
nucleolus**

