



LifeAct

The Proven Marker for
Visualization of F-Actin in
Living Cells

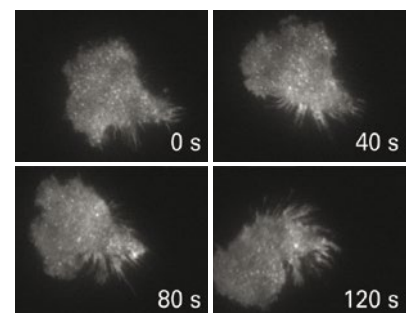
- ✓ Brilliant visualization of F-actin with excellent signal-to-noise ratio
- ✓ Unrestricted actin functionality: no interference with cytoskeletal dynamics
- ✓ Access to difficult-to-transfect cells, such as primary cells
- ✓ Long-term actin staining after generation of stable cell lines

Cytoskeleton organization

- Non-toxic actin visualization
- Fluorescence staining

Cytoskeletal dynamics

- Actin dynamics in cellular processes
- Live cell imaging and microscopy



Additional equipment for researchers working with eukaryotic cells:



Freezing Medium

Torpedo^{DNA}

μ-Dish^{35 mm, high}

μ-Slide 8 well

μ-Slide VI^{0.4}

ibidi Heating & Incubation System

Cell Culture

Microscopy – Live Cell Imaging

LifeAct

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LifeAct

LifeAct, a 17-amino acid peptide, is derived from a protein found in *Saccharomyces cerevisiae*. LifeAct stains filamentous actin (F-actin) structures in living or fixed eukaryotic cells and tissues. In contrast to GFP-actin and its alternatives such as actin-binding proteins, LifeAct does not interfere with actin dynamics *in vitro* and *in vivo*, as shown in several cell types and model organisms.

LifeAct Plasmid

After transfection of cells with pLifeAct, F-actin is visualized using the fluorescence markers TagGFP2 or TagRFP. The plasmid is perfect for easy cell transfection of various cell types. Stable transfection of cell lines allows long-term actin staining for various applications.

LifeAct Adenoviral Vector

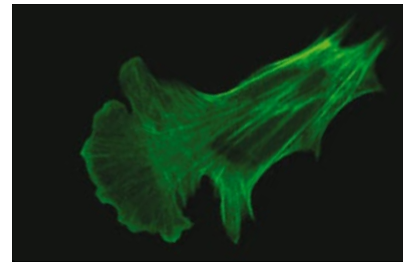
Difficult-to-transfect cells are easily transduced using the LifeAct adenoviral vector. Transduction efficiencies of up to 100 % can be attained, even in primary cells (e.g., neuronal cells).

LifeAct Lentiviral Vector

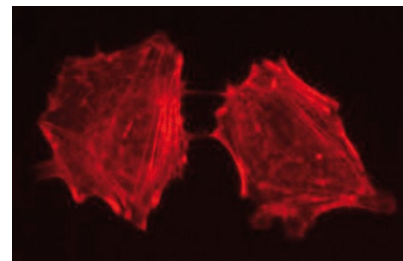
These vectors are especially suited for the generation of stable cell lines. Their most advantageous feature is the ability to mediate efficient transduction, integration, and long-term expression into dividing and non-dividing cells, both *in vitro* and *in vivo*.

Stable LifeAct Expressing Cell Line

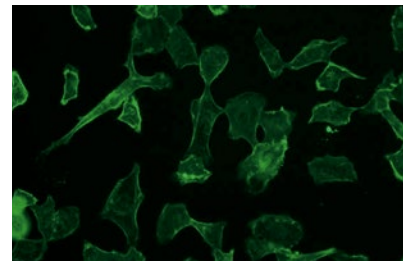
The stable human fibrosarcoma cell line HT-1080 LifeAct-TagGFP2 presents highly dynamic actin. As a result of stable LifeAct expression, perfect visualization of F-actin is achieved. Moreover, comprehensive characterization using ibidi's functional cell-based assays proved that this cell line is ideal for studies on migration, chemotaxis, and wound healing.



Human fibroblast transfected with p^{CMV} -LifeAct-TagGFP2



Human lung cancer cell line A549 infected with rAV^{CMV} -LifeAct-TagRFP



Stable LifeAct-TagGFP2 expressing HT-1080 human fibrosarcoma cell line

Ordering Information:

Cat. No.	Description
60101	p^{CMV} -LifeAct-TagGFP2: plasmid, ready to use, 500 ng/ μ l, 20 μ g
60102	p^{CMV} -LifeAct-TagRFP: plasmid, ready to use, 500 ng/ μ l, 20 μ g
60106	p^{CAG} -LifeAct-TagGFP2: plasmid, ready to use, 500 ng/ μ l, 20 μ g
60107	p^{CAG} -LifeAct-TagRFP: plasmid, ready to use, 500 ng/ μ l, 20 μ g
60121	rAV^{CMV} -LifeAct-TagGFP2: adenoviral vector, ready to use, 1×10^{10} IU/ml, 1×10^9 IU
60122	rAV^{CMV} -LifeAct-TagRFP: adenoviral vector, ready to use, 1×10^{10} IU/ml, 1×10^9 IU
60141	rLV^{Ubi} -LifeAct-TagGFP2: lentiviral vector, ready to use, 1×10^7 TU/ml, 100 μ l
60142	rLV^{Ubi} -LifeAct-TagRFP: lentiviral vector, ready to use, 1×10^7 TU/ml, 100 μ l
40101	HT-1080 LifeAct-TagGFP2: HT-1080 cells expr. LifeAct-TagGFP2, 5×10^5 cells/vial

Original LifeAct Publications:

Riedl J, Crevenna AH, Kessenbrock K, Yu JH, Neukirchen D, Bista M, Bradke F, Jenne DE, Holak TA, Werb Z, Sixt M & Wedlich-Söldner R. **Lifeact – a versatile marker for the visualization of F-actin.** Nature Methods 5, 605-607 (2008).

Riedl J, Flynn KC, Raducanu A, Gärtner F, Beck G, Bösl M, Bradke F, Massberg S, Aszodi A, Sixt M & Wedlich-Söldner R. **Lifeact-mice for studying F-actin dynamics.** Nature Methods 7, 168-169 (2010).