**REAGENTS PROVIDED**

**NorthernLights™ 637 (NL637)-conjugated sheep polyclonal anti-Human Cytokeratin 19:** Supplied as a 10X solution of antibody in 0.5 mL PBS containing 0.09% sodium azide.

**Isotype:** sheep IgG

**STORAGE**

Reagents are stable for **twelve months** from date of receipt when stored in the dark at 2-8 °C.

**INTENDED USE**

Designed to visualize the expression of human Cytokeratin 19 by fluorescence microscopy for staining cells and tissues. Conjugated Cytokeratin 19 antibodies are ideal for immunocytochemistry colocalization studies.

**PRODUCT DESCRIPTION**

This antibody was produced in sheep immunized with *E. coli*-derived recombinant human Cytokeratin 19 (Thr2-Leu400; Accession # P08727). The antigen affinity-purified antibody was then conjugated to fluorochrome NL637. The spectral characteristics of NL637 are provided, along with those of APC and Cy5 for comparison.

<table>
<thead>
<tr>
<th>Fluorochrome</th>
<th>Absorption Maximum (nm)</th>
<th>Emission Maximum (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NL637</td>
<td>637</td>
<td>658</td>
</tr>
<tr>
<td>APC</td>
<td>645</td>
<td>660</td>
</tr>
<tr>
<td>Cy5</td>
<td>650</td>
<td>670</td>
</tr>
</tbody>
</table>

Immunofluorescent detection of Cytokeratin 19 (red color) in fixed MCF-7 cells. Labeling is confined to intermediate filaments. Nuclei were labeled with DAPI (blue color).

**BACKGROUND INFORMATION**

Cytokeratin 19 (Keratin, type I cytoskeletal 19; also KRT 19, CK19 and Keratin 19) is a 40-45 kDa, acidic Class I keratin member of the intermediate filament family of proteins. Individual keratins are always expressed in tandem with a second keratin, and these are found in all epithelial cells. The class I KRT 19 heterodimerizes/ polymerizes with 50-52 kDa class II KRT 8 (plus KRT5 and 7) to form 8-10 nm filaments in epidermal stem cells, secretory gland (sweat; mammary; bile duct) simple epithelium, and neuroendocrine epidermal Merkel cells. It may represent a viable marker for skin stem cells. In skin, Cytokeratin 19 forms filaments in the fetal epithelium, and then progressively decreases with age, being virtually absent by age 17. Human Cytokeratin 19 is 400 amino acids (aa) in length. It contains an N-terminal “head” region (aa 1-79) and a subsequent “rod” region (aa 80-387), but is absent a typical C-terminal tail region. Cytokeratin 19 possesses at least 5 utilized phosphorylation sites plus one acetylated Lys residue. Based on other keratins, and the presence of an Asp at position 238, there may be caspase cleavage generated isoforms. Full length human Cytokeratin 19 (aa 2-400) shares 82% aa sequence identity with mouse Cytokeratin 19.

**FLUORESCENT STAINING VALIDATION**

This antibody has been tested for immunofluorescent detection of Cytokeratin 19 in MCF-7 cells fixed in 2% formaldehyde. Cells were incubated with sheep anti-human Cytokeratin 19 antibody conjugated to NL637 at a final concentration of 1X (1:10 dilution) overnight at 4 °C. After washing with PBS, cells were counterstained with DAPI to label cell nuclei. If a staining volume of 250 µL is used, this vial can be used for 20 tests; 100 tests can be done in a staining volume of 50 µL.

**Warning:** Contains sodium azide as a preservative. Sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.