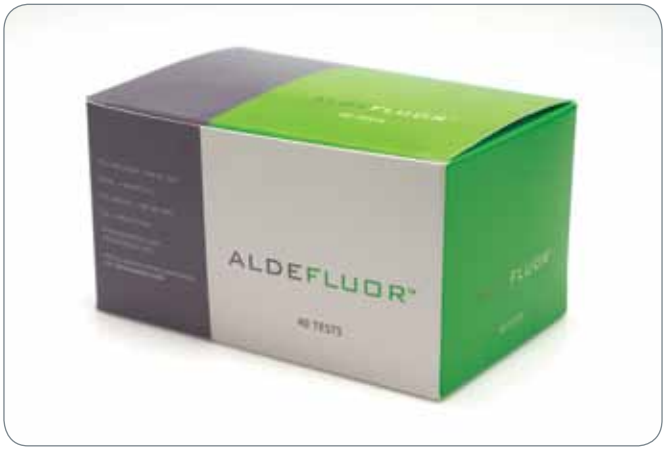
ALDEFLUOR™

For Detection and Isolation of Viable Stem & Progenitor Cells

ALDEFLUOR™

A simple and rapid method to detect viable normal and cancer stem & progenitor cells

The ALDEFLUOR™ fluorescent reagent system offers a novel approach to the identification, evaluation, and isolation of stem and progenitor cells based on their expression of the enzyme aldehyde dehydrogenase (ALDH), rather than cell surface phenotype. The enzyme ALDH is highly expressed in cells shown to have properties of stem and progenitor cells,[1-9] including $CD34^+$ cells, $CD133^+$ cells, Kit^+ cells, Lineage-antigen negative (Lin^-) cells, colony-forming cells, long-term culture-initiating cells, and NOD/SCID-repopulating cells. While ALDEFLUOR™ is optimized for use with human blood products,[2-8] it has been used for the identification of stem and progenitor cells from non-hematopoietic lineages, as well as from multiple species.[9-14]

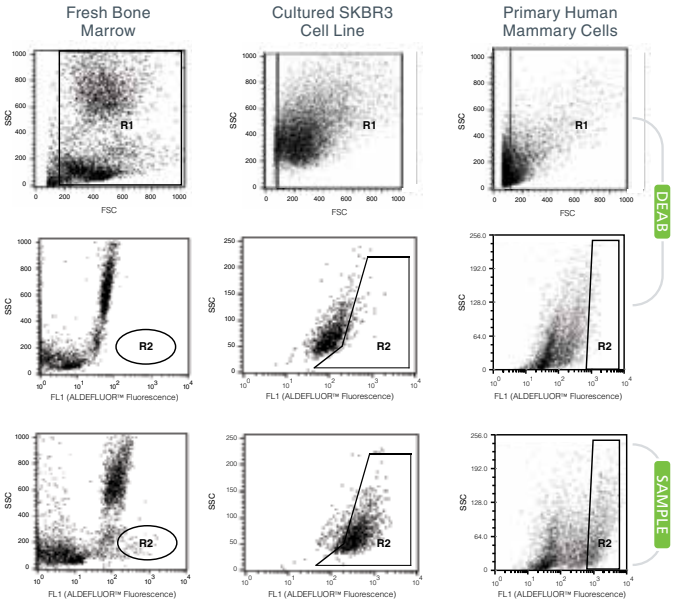


www.aldefluor.com

Why Choose ALDEFLUOR™?

- Detects normal and malignant precursor cells across multiple lineages, including hematopoietic, mammary, brain, head and neck, lung, liver, pancreas, cervix, ovaries, bladder, prostate, colon and thyroid regions
- Non-toxic, allowing for the downstream analysis of $ALDH^{br}$ cells
- Compatible with immunophenotyping and counterstaining of cells with other fluorescent antibodies
- Highly reproducible, easy-to-use, and has a long reagent shelf life.

Typical ALDEFLUOR™ FACS Profiles



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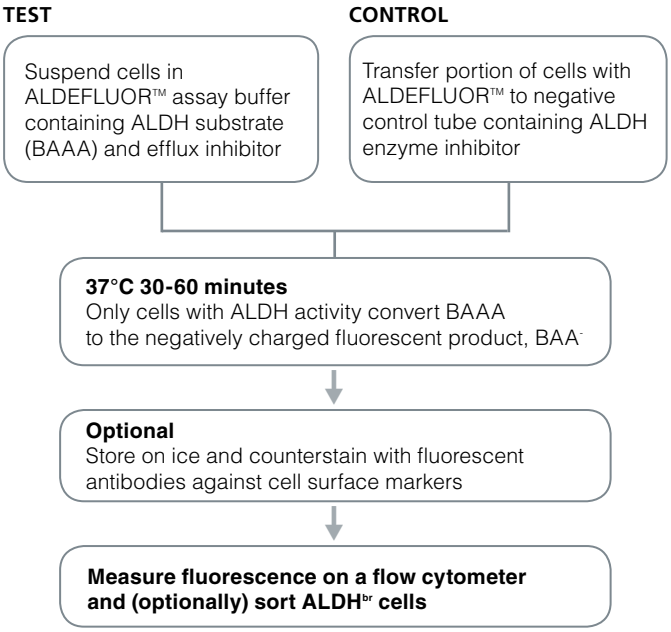
How Does ALDEFLUOR™ Work?

- Uncharged ALDH-substrate, BAAA (BODIPY® - aminoacetaldehyde), is taken up by living cells through passive diffusion.
- BAAA is converted by intracellular ALDH into a negatively charged reaction product BAA- (BODIPY® - aminoacetate), which is retained inside cells, causing the cells expressing high levels of ALDH to become brightly fluorescent.
- The brightly fluorescent ALDH-expressing cells ($ALDH^{br}$) are detected in the green fluorescence channel (520-540 nm) of a standard flow cytometer.
- Since only cells with an intact cellular membrane can retain the ALDEFLUOR™ reaction product, only viable $ALDH^{br}$ cells are identified.

Procedure



SCAN ME

Video:
Tissue-Specific Optimization of ALDEFLUOR™ Protocols
www.stemcell.com/OptALDEFLUOR

Order Now

PRODUCT	SIZE	CATALOG #
ALDEFLUOR™	1 Kit (40 Tests)	01700
ALDECOUNT™ IVD Assay Kit*	1 Kit	01721
ALDECOUNT™ RUO Assay Kit**	1 Kit	01720

* FDA-cleared for detection & enumeration of $ALDH^{br}SSC^{lo}$ hematopoietic progenitors. US-only.

** Detection and enumeration of $ALDH^{br}SSC^{lo}$ hematopoietic progenitors. Available worldwide.

References

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Did You Know?

Selected publications using ALDEFLUOR™ to detect cancer precursor cells are available in a tissue-specific list at www.aldefluor.com.