AnaSpec Introduces Fluorescent GO™ Peptides

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June 18, 2009 - PRLog -- Fluorescent peptides, peptides with a reporter fluorescent dye, are valuable probes used in visualizing intracellular processes and molecular interactions at the level of single cells. The fluorescent dye can be attached to the amino (N) or carboxy (C)-terminus, or in the case of FRET (Fluorescence or Förster resonance energy transfer) peptides, the two dyes (donor and acceptor) can be at the amino and carboxy termini or in the internal peptide sequence.

Leveraging its dual expertise in peptides and fluorescent dyes, AnaSpec is pleased to offer a broad selection of fluorescently labeled peptides labeled with our proprietary HiLyte Fluor™ dyes, as well as classic dyes (FAM, FITC, TAMRA).

For use as enzyme activity detection probes
Peptide substrates used in detection of enzyme activity can contain either a single dye or in the case of FRET, two dyes. In the intact fluorescent substrates, there is low fluorescence prior to enzyme hydrolysis. Upon recognition of the substrate by a specific enzyme and subsequent cleavage, the quenched fluorescence is recovered. Increase in fluorescence is correlated to enzyme activity. AnaSpec’s single dye-labeled fluorescent peptide selection include substrates for kinases, caspases, cathepsins, HDAC (histone deacetylase), calpain, kallikrein, and others. Our FRET peptides, generally consisting of a dye (donor) and a non-fluorescent quencher (acceptor), include substrates for MMPs, Aggrecanase-1, HCV, HIV, cathepsins, renin, ACE2, ? and ?-secretases and others.

For use as targeting probes
Fluorescent peptides have been used in in vivo or in vitro studies for visualizing cellular processes and molecular interactions. In in vivo imaging, three-dimensional fluorescence images of the internal structures, especially of small animals, are produced. This technique requires the use of near infrared red (NIR) dyes since at higher wavelength, tissues do not absorb or scatter photons as strongly as when lower wavelength dyes are used. An example is an RGD peptide, c[RGDyK(HiLyte Fluor™ 750)], that AnaSpec synthesized for J. Rey of the Univ. of South Florida. This peptide was shown to bind preferentially to organs that are known to be rich in integrin avb3 (see poster for details). Another examples are the fluorescent cell penetrating peptides, FITC-LC-Antennapedia and TAMRA-labeled TAT (47-57), cat# 61211.

References:

About AnaSpec
AnaSpec is a leading provider of integrated proteomics solutions to the world’s largest biotech, pharmaceutical, and academic research institutions. With a vision for innovation through synergy, AnaSpec focuses on three core technologies: peptides, detection reagents, and combinatorial chemistry.

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AnaSpec, Inc. is a leading provider of integrated proteomics solutions™ for worldwide life science research. AnaSpec offers expertise in three primary technologies: peptides, detection reagents, and combinatorial chemistry.

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