

Alkynyl sugar analogs for labeling and visualization of glycoconjugates in cells

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智財權狀態

美國臨時案已申請、美國7,960,139已獲證、美國9,816,981B2已獲證、美國放棄申請、美國10,317,393 B2已獲證

摘要

Most of eukaryotic proteins are glycoproteins, and it is acknowledged that glycosylation process plays a central role in mediating protein function in living organisms. It is known that altered glycosylation is often associated with inflammation and cancer metastasis. Therefore, the detailed correlations between glycosylation and biological or pathological statuses are of great interest and may provide information for disease diagnosis and treatment. The invention relates to the development of new chemical tools to probe glycoproteins. Innovative sugar analogs are used to feed cells for incorporating into cellular glycoproteins by glycosyltransferases. With chemical functionality on sugar analogs, the labeled glycoproteins can thus be specifically tagged on fluorogenic/fluorescent or affinity probes for imaging or purification. This work was selected and reported as a "Research Highlight" by Nature Functional Glycomics Gateway. This invention adds a powerful technique to the glycosylation and glycoprotein analysis repertoire.

技術優勢

Novel sugar analogs Powerful technique for labeling fucosyl glycans and glycoproteins.

應用範圍

Glycoprotein imaging Glycoprotein purification
Identification of key biomarkers Cancer Research
Diagnosis of Disease

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