

innovations

from the University of Vermont

TITLE: DETECTION OF GLUTATHIONYLATED PROTEINS

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DESCRIPTION: This invention represents a new method (process) to detect oxidated proteins, in particular glutathionylated proteins. In addition to detection, spatial location and concentration of these oxidated proteins can be achieved. Oxidative stress conditions can be detected both in vitro and in vivo.

Prior to this invention, the only method available to detect S-nitrosylation diagnostically was the use of an antibody directed against S-nitrosocysteine which has questionable specificity, as the NO-cysteine bond (known as S-nitrosylation or S-nitrosation is highly labile). Thus using our method, the ability now exists to visualize S-nitrosylated proteins in intact cells or tissues which is not possible with currently accepted methods. This offers the advantage to visualize the altered NO function which is believed to be important in many diseases.

ADVANTAGES: Hospitals and research centers can use this invention to determine functional Glutathionylated proteins in cells or tissues from patients or animals. This may serve as a diagnostic tool in diseases, and can also evaluate the effectiveness of NO-delivery strategies.

PATENT STATUS: Patent pending

LICENSING STATUS: Worldwide rights available

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