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(54) **PROTEIN GLYCOSYLATION MODIFICATION IN PICHIA PASTORIS**
MODIFIKATION DER PROTEINGLYCOSYLIERUNG IN PICHIA PASTORIS
MODIFICATION DE GLYCOSYLATION DE PROTEINE DANS PICHIA PASTORIS

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(56) References cited:
EP-A- 0 314 096 **EP-A- 0 548 012**
EP-A- 0 582 244 **EP-A- 1 211 310**
WO-A-91/05057 **WO-A-96/21038**

- **MARTINET W ET AL: "MODIFICATION OF THE PROTEIN GLYCOSYLATION PATHWAY IN THE METHYLOTROPHIC YEAST PICHIA PASTORIS" BIOTECHNOLOGY LETTERS, KEW, SURREY, GB, vol. 20, no. 12, December 1998 (1998-12), pages 1171-1177, XP001006335 ISSN: 0141-5492 cited in the application**
- **NAKAYAMA K-I ET AL: "OCH1 ENCODES A NOVEL MEMBRANE BOUND MANNOSYLTRANSFERASE: OUTER CHAIN ELONGATION OF ASPARAGINE-LINKED OLIGOSACCHARIDES" EMBO JOURNAL, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 11, no. 7, 1992, pages 2511-2519, XP002934332 ISSN: 0261-4189**
- **KNISKERN P J ET AL: "CHARACTERIZATION AND EVALUATION OF A RECOMBINANT HEPATITIS B VACCINE EXPRESSED IN YEAST DEFECTIVE FOR N-LINKED HYPERGLYCOSYLATION" VACCINE, BUTTERWORTH SCIENTIFIC. GUILDFORD, GB, vol. 11, no. 12, 1994, pages 1021-1025, XP001073955 ISSN: 0264-410X**
- **TROMBETTA E SERGIO ET AL: "Endoplasmic reticulum glucosidase II is composed of a catalytic subunit, conserved from yeast to mammals, and a tightly bound noncatalytic HDEL-containing subunit." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 271, no. 44, 1996, pages 27509-27516, XP002213792 ISSN: 0021-9258**

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