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Expression of sialyl Le^x, sialyl Le^a, Le^x and Le^y glycotopes in secreted human ovarian cyst glycoproteins

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Human blood group A, B, H, Ii, Le^a and Le^b antigens and their determinants expressed on ovarian cyst glycoproteins have been studied for over five decades. However, little is known about sialyl Le^x and sialyl Le^a glycotopes, which play essential roles in normal immunity, inflammation and cancer cell metastasis. Furthermore, Le^x and Le^y were classified as glycotopes of unknown genes. Identification of these Lewis epitopes was hampered by the lack of specific antibodies. In this study, the occurrence of sialyl Le^x, sialyl Le^a, Le^x and Le^y reactivities in cyst glycoproteins was characterized by enzyme-linked immunosorbent assays. The results indicated that most human ovarian cyst glycoproteins carried Le^x (8/25) and or Le^y (17/25) glycotopes. The expression (epitopes) of the new genes described in previous reports are Le^x and Le^y glycotopes; the reactivities of sialyl Le^x and sialyl Le^a glycotopes in secreted cyst glycoproteins may be affected by the conditions of purification; the relationship between Le^y and human blood group ABH was confirmed; recognition profiles of sialyl Le^x, sialyl Le^a, Le^x and Le^y present in the carbohydrate chains of water-soluble cyst glycoproteins were illustrated; possible attachments of glycotopes to the internal carbohydrate complex of cyst glycoproteins have been reconstructed; proposed biosynthetic pathways for the formation of sialyl Le^a, sialyl Le^x, Le^x, Le^y, ALe^y and BLe^y determinant structures on Type-I and Type-II core structures of human ovarian cyst glycoproteins are also included in this study.

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