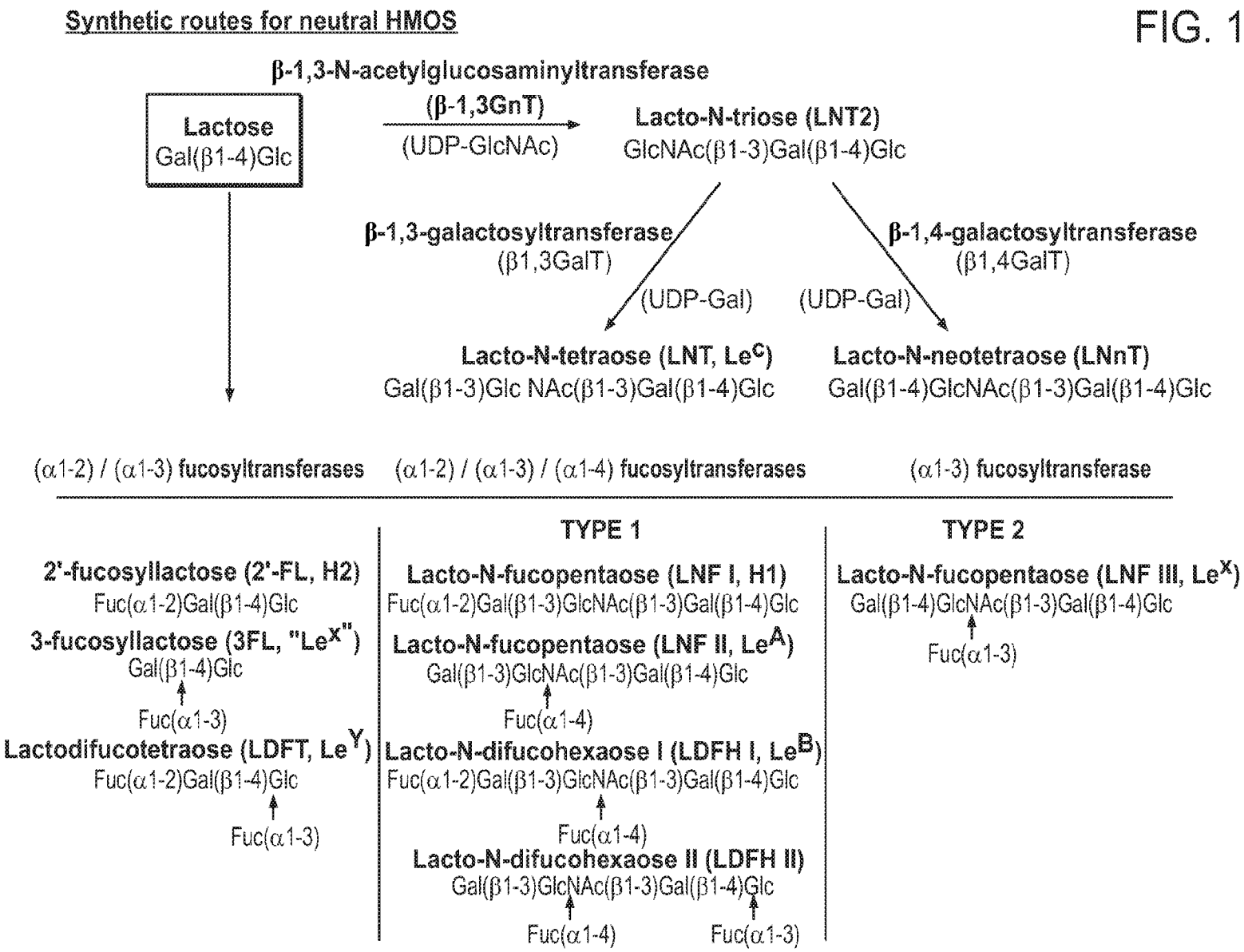
FIG. 1


Synthetic routes for neutral HMOS
β-1,3-N-acetylglucosaminyltransferase
(β-1,3GnT)
(UDP-GlcNAc)
Lactose
Gal(β1-4)Glc
Lacto-N-triose (LNT2)
GlcNAc(β1-3)Gal(β1-4)Glc
β-1,3-galactosyltransferase
(β1,3GalT)
(UDP-Gal)
β-1,4-galactosyltransferase
(β1,4GalT)
(UDP-Gal)
Lacto-N-tetraose (LNT, Le^C)
Gal(β1-3)Glc NAc(β1-3)Gal(β1-4)Glc
Lacto-N-neotetraose (LNnT)
Gal(β1-4)GlcNAc(β1-3)Gal(β1-4)Glc
(α1-2) / (α1-3) fucosyltransferases
(α1-2) / (α1-3) / (α1-4) fucosyltransferases
(α1-3) fucosyltransferase
TYPE 1
TYPE 2
2'-fucosyllactose (2'-FL, H2)
Fuc(α1-2)Gal(β1-4)Glc
3-fucosyllactose (3FL, "Le^X")
Gal(β1-4)Glc
Fuc(α1-3)
Lactodifucotetraose (LDFT, Le^Y)
Fuc(α1-2)Gal(β1-4)Glc
Fuc(α1-3)
Lacto-N-fucopentaose (LNF I, H1)
Fuc(α1-2)Gal(β1-3)GlcNAc(β1-3)Gal(β1-4)Glc
Lacto-N-fucopentaose (LNF II, Le^A)
Gal(β1-3)GlcNAc(β1-3)Gal(β1-4)Glc
Fuc(α1-4)
Lacto-N-difucohexaose I (LDFH I, Le^B)
Fuc(α1-2)Gal(β1-3)GlcNAc(β1-3)Gal(β1-4)Glc
Fuc(α1-4)
Lacto-N-difucohexaose II (LDFH II)
Gal(β1-3)GlcNAc(β1-3)Gal(β1-4)Glc
Fuc(α1-4)
Fuc(α1-3)
Lacto-N-fucopentaose (LNF III, Le^X)
Gal(β1-4)GlcNAc(β1-3)Gal(β1-4)Glc
Fuc(α1-3)