

## FUT2 (G-15): sc-21966

### BACKGROUND

All human blood, with rare exception, carries the red cell H antigen. The H blood group locus determines expression of the H antigen in the erythroid lineage, whereas a unique locus (the SE (secretion) locus) controls H expression in a variety of secretory epithelia and in saliva. Individuals of the Bombay phenotype lack H antigen, whereas individuals of the para-Bombay phenotype synthesize H determinants (essential precursors to A and B antigens) in their secretory epithelia but not in the erythroid lineage. The H and SE loci, which may have arisen by gene duplication from a common ancestral gene, are known as FUT1 and FUT2, respectively, and are tightly linked on chromosome 19q13.3. FUT1 and FUT2 encode two distinct  $\alpha$ -2-L-fucosyltransferases in human serum. The FUT2 locus (SE or ABO-secretor locus) exhibits extensive polymorphism showing high heterogeneity and overt ethnic specificity. For this reason, mutations or polymorphisms of the FUT2 gene are used as markers for investigating population genetics. FUT2 is expressed on the surface of several human tumor cell lines such as BEL-7404, SPC-A-1 and SGC-7901.

### REFERENCES

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- Saunier, K., et al. 2001. Organization of the bovine  $\alpha$  2-fucosyltransferase gene cluster suggests that the Sec1 gene might have been shaped through a nonautonomous L1-retrotransposition event within the same locus. *Mol. Biol. Evol.* 18: 2083-2091.
- Domino, S.E., et al. 2001. Molecular cloning, genomic mapping, and expression of two secretor blood group  $\alpha$ (1,2)fucosyltransferase genes differentially regulated in mouse uterine epithelium and gastrointestinal tract. *J. Biol. Chem.* 276: 23748-23756.
- Pang, H., et al. 2001. Polymorphism of the human ABO-Secretor locus (FUT2) in four populations in Asia: indication of distinct Asian subpopulations. *Ann. Hum. Genet.* 65: 429-437.
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### CHROMOSOMAL LOCATION

Genetic locus: Fut2 (mouse) mapping to 7 B4.

### SOURCE

FUT2 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FUT2 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21966 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

FUT2 (G-15) is recommended for detection of FUT2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

FUT2 (G-15) is also recommended for detection of FUT2 in additional species, including canine.

Suitable for use as control antibody for FUT2 siRNA (m): sc-40594, FUT2 shRNA Plasmid (m): sc-40594-SH and FUT2 shRNA (m) Lentiviral Particles: sc-40594-V.

Molecular Weight of FUT2: 39 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **FUT2 (9T-8): sc-100742**, our highly recommended monoclonal alternative to FUT2 (G-15).