Product Information

Mucin from bovine submaxillary glands

Type I-S

M3895

Product Description

CAS Registry Number: 84062-64-4

Mucins are highly glycosylated proteins that occur in mucus and the mucous membranes of animals and humans. The principal glycoprotein component of mucus, mucins are associated with such organs as the abdomen and the stomach. Their high degree of glycosylation renders mucins highly stable to digestion in acidic *in vivo* environments such as gastric mucosa.

Olof Hammarsten first isolated bovine submaxillary mucin (BSM) in 1888.[1] The molecular mass of bovine submaxillary mucin has been estimated variously at:

- ~1,600 kDa[2] or ~2,900 kDa[3], by static light scattering analysis
- ~200-500 kDa, by atomic force microscopy[4]

An earlier publication estimated a molecular mass for the protein backbone of BSM, following acid treatment to remove glycans, in the range of 108-116 kDa.[5]

The protein backbone of BSM is notably rich in Pro, Ser, Thr, and Gly residues.[6] Several molecular biology studies have investigated the sequences in various domains of BSM.[7-9] The thermal stability of BSM in solution has been studied.[10]

In BSM, prevalent glycans include:[7]

- *N,O*-diacetylneuraminic acid
- 2-Acetamido-2-deoxy-D-galactose
- 2-Acetamido-2-deoxy-D-glucose

Fucose and D-Galactose are also present in BSM to lesser degrees.[11] Several publications have probed structural aspects and the isomeric heterogeneity of the carbohydrate groups of BSM, following alkaline borohydride treatment, using various analytical methods such as GC-MS[12] and ion mobility MS.[13]

This non-sterile product is measured for sialic acid content as follows:

- 9-24% (bound)
- ≤2.5% (free)

Several theses[14] and dissertations[15-23] have cited use of product M3895 in their protocols.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product at –20 °C.

References

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