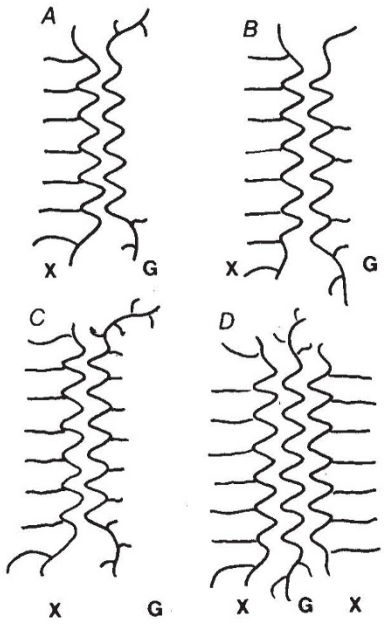

Fig. 3 Schematic representation of possible xanthan (X)-galactomannan (G) binding. Possible binding between a xanthan backbone and: *A*, bare mannan regions of the galactomannan backbone; *B*, randomly substituted galactomannan; *C*, galactomannan containing galactose on alternate mannose residues. *D*, Simplest xanthan-galactomannan sandwich structure.

in the medium[13]. When carob was mixed with xanthan in the presence of sufficient calcium chloride such that $T_c > 100$ °C, and the samples were heated (95 °C) and re-cooled to room temperature, they did not gel; this suggests that denaturation of the xanthan helix is necessary if intermolecular association and gelation is to occur. Glucose and mannose differ only in the orientation of the hydroxyl substituent at C-2, suggesting the possibility of binding between the sterically compatible cellulose backbone of xanthan and the mannan backbone of carob.

Optical rotation studies[14] on xanthan-galactomannan mixtures coupled with enzymatic studies[15] on xanthan-carob mixtures suggest that only small segments of both backbones could be involved in binding, with the remaining xanthan reforming the helical conformation. Alignment of mixed junction zones will also lead to alignment of xanthan helices. Thus, reflections characteristic of aligned xanthan should be neglected in Fig. 2*D*, *E* in order to characterize the mixed junction zone. The first meridional reflection for the mixed junction zones corresponds to an interplanar spacing of 0.52 nm, characteristic of cellulose[16] or mannan[17], supporting binding between the backbones but ruling out simple binding schemes of the type shown in Fig. 3*A*–*C*. To achieve the correct interplanar spacing appropriate to the first meridional reflection, it would be necessary to stagger the positions of the xanthan side chains (Fig. 3*D*) although the stoichiometry of such sandwich structures is undefined. The mixed junction zone patterns are equivalent to carob patterns for which only 0*kl* reflections are allowed. The simplest answer would be to permit growth of a sandwich structure in the *b* and *c* directions but to restrict growth in the *a* direction. However, streaking of layer line reflections characteristic of such laminar structures was not observed. The alternative is to envisage a structure periodic in the *b* and *c* directions but aperiodic in the *a* direction.

The data presented here constitute the first example of a conformational modification of one polysaccharide by a non-covalent interaction with another polysaccharide. The structural similarity of the xanthan and carob backbones accounts for the specificity of the interaction and also explains why X-ray diffraction studies[10,18,19] have failed to reveal proposed[1–7] intermolecular binding between galactomannans and the structurally incompatible algal polysaccharides κ-carrageenan and furcellaran. The data support suggested co-crystallization of cellulose with galactomannans[20] or xyloglucans[21–23] in complex plant cell walls. Binding of extracellular xanthan to plant cell wall components is only likely if helix formation is incomplete. This cannot, however, exclude possible host-pathogen interactions because such extracellular assembly is normally biochemically controlled.

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Erratum

Molecular distinction between fetal and adult forms of muscle acetylcholine receptor

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THE first sentence in the summary to this article should read: "Distinct classes of acetylcholine receptor channels are injected with combinations of the bovine α-, β-, γ- and δ- or the α-, β-, δ- and ε-subunit-specific messenger RNAs."

Corrigendum

Near-ultraviolet and visible spectrophotometry of comet Halley from Vega 2

G. Moreels, M. Gogoshev, V. A. Krasnopolsky, J. Clairemidi, M. Vincent, J. P. Parisot, J. L. Bertaux, J. E. Blamont, M. C. Festou, Ts. Gogosheva, S. Sargoichev, K. Palasov, V. I. Moroz, A. A. Krysko & V. Vanysek

Nature **321**, 271–273 (1986)

IN this letter in *Nature*'s comet Halley supplement, an incorrect address was given for one of the authors. V. Vanysek's correct address is: Charles University, 15000 Prague, Czechoslovakia.