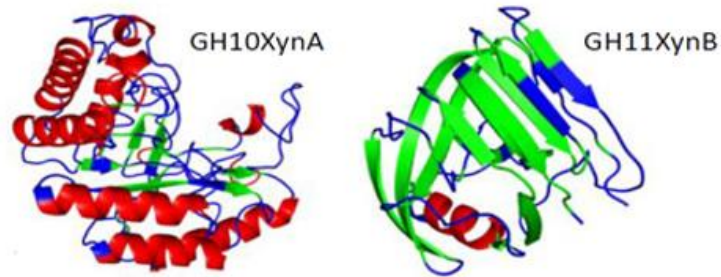


#12-18-B

Technology

Bio-inputs

Recombinant Xylanases to Produce Bioactive Compounds from Biomass



Research Center for Agricultural and Veterinary Sciences (CICVYA)

National Center of Agricultural Research of Argentina (CNIA)

BIOTECHNOLOGY

Rodrigo Rojo

rojo.rodrigo@inta.gob.ar

Eleonora Campos

Biotechnology Institute CICVyA-CNIA INTA

#enzymes | #xylooligosaccharides | #biomass | #bioactive | #xilose | #biomass degradation | #bioenergy

<https://www.argentina.gob.ar/tecnologias/xilanasas-recombinantes-para-la-produccion-de-compuestos-bioactivos-partir-de-biomasa>

Diversifying power sources is presently the driver for many businesses, focusing on the integral use of biomass for energy purposes. Growing awareness regarding the environmental effects of productive activities poses internationally valued sustainable alternatives for consumers.

Xylanases are key enzymes in biomass use due to the breakage of the β 1-4 bonds of the xylene molecule. This enables the release of xylooligosaccharides (XOS) and Xylose. XOS have prebiotic potential and Xylose may be fermented to xylitol, a non-nutritive, highly sought sweetener.

The Bioenergy and Agribusiness Enzymes Group from the INTA Biotechnology Institute has developed recombinant xylanases and characterized their biological activity in different residues from primary production processes of soy, sugar cane, maize, etc. Likewise, its use in animal feed formulas and its contribution to digestibility is under assessment.

This product is aimed at biofuel companies who seek to use lignocellulosic waste for industrial purposes, increasing production yields and environmental sustainability.

Byproduct repurposing.

Sustainable and scalable at industrial level.

Recombinant xylanase enzymes biochemically expressed and characterized. Requires application, purification, formulation and preservation testing according to intended use.

Recombinant structure of expressed enzymes; formulae can be protected by patents.