

Title (en)

A METHOD FOR VISUALLY SELECTING TRANSGENIC PLANT CELLS OR TISSUES BY CAROTENOID PIGMENTATION

Title (de)

VERFAHREN ZUR SICHTBARE SELEKTION VON TRANSGENEN PFLANZENZELLEN ODER GEWEBEN MITTELS CAROTENOIDEPIGMENTIERUNG

Title (fr)

PROCEDE POUR SELECTIONNER VISUELLEMENT DES CELLULES OU DES TISSUS VEGETAUX TRANSGENIQUES GRACE A DES PIGMENTS CAROTENOIDES

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Application

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Abstract (en)

[origin: WO9714807A1] The present invention involves a method of visually identifying and selecting transgenic plants by carotenoid pigmentation. The method of the present invention involves culturing transgenic plant cells or tissues on a culture medium. The transgenic cells or tissues contain a recombinant chimeric DNA segment which contains at least one expression cassette. This cassette contains three components. The first component is a suitable promoter DNA segment which functions in plant cells or tissues. The second component is a DNA segment which contains a plastid targeting signal fused to the coding region of the phytoene synthase gene of the Erwinia group of genes which when expressed result in the production of a colored member of the biosynthetic pathway. The DNA segment causes the production of RNA which encodes a chimeric polypeptide. The third component is a 3' non-translated DNA segment. After the recombinant chimeric DNA segment is inserted into the plant cells or tissues, transgenic plant cells or tissues are identified by the appearance of orange color due to carotenoid pigmentation. The development of the carotenoid pigmentation can be used to separate transgenic plant cells from the non-transgenic plant cells and to regenerate them into plants, or to visually identify proprietary transgenic plants.

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