

The invention relates to a novel elongase gene comprising the sequences cited in sequence SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:7 or to homologues, derivatives or analogues thereof. The invention also relates to a gene construct containing these genes or homologues, derivatives or analogues thereof, and to its use. The invention additionally relates to the vectors or transgenic organisms containing an elongase gene comprising the sequence SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 and SEQ ID NO:7 or containing homologues, derivatives or analogues thereof. The invention relates to the use of the elongase sequences alone or in combination with additional elongases and/or with additional fatty acid biosynthesis genes. The invention relates to a novel elongase gene comprising the sequence SEQ ID NO:1 or to homologues, derivatives or analogues thereof. The invention also relates to a method for producing multiple-unsaturated fatty acids and to a method for introducing DNA into organisms which produce large quantities of oils and, in particular, oils having a high content of unsaturated fatty acids. The invention further relates to an oil and/or to a fatty acid preparation having a high content of multiple-unsaturated fatty acids that contain at least two double bonds and/or to a triacylglycerin preparation having a high content of multiple-unsaturated fatty acids that contain at least two double bonds.