

Title (en)
PHYTASE FROM GERMINATED SOYBEANS

Title (de)
PHYTASE ASU GEKEIMTEN SOJABOHNEN

Title (fr)
PHYTASE OBTENUE A PARTIR DE GERMES DE SOJA

Publication
EP 0942993 A2 19990922 (EN)

Application
EP 97948873 A 19971104

Priority
• EP 9706076 W 19971104
• GB 9623133 A 19961105

Abstract (en)
[origin: GB2319030A] Phytase, extracted from soybean, is characterised by: (i) an optimal pH of ca . 5.0, as measured in a buffer comprising 0.0091M sodium phytate in 50mM acetic acid/sodium hydroxide and 1mM calcium chloride at 50 degrees C. for 4 hours; `` and, optionally, at least one of: (ii) a specific activity of at least 6 micromoles/minute/gramme, as measured at pH 5.0 under the conditions in (i) above; (iii) pI value of ca. 4.9; (iv) molecular weight of between 30kDa. and 100kDa., preferably 75kDa.; (v) an amino acid sequence in the N-terminal portion, having at least 85% homology with SEQ.ID.No.1 - HIPSTLEGPFDPVTPFDPALRGVAVDLPET. The phytase may be obtained from soybean extract (or fractions thereof), soya flour or germinated soybeans (or parts thereof) by sequential treatment processes, involving ammonium sulphate precipitation (from 50 to 70%), anion-exchange chromatography and cation-exchange chromatograpy. DNA, encoding said phytase, which may be in a vector for the transformation of a host cell, is described. The host cell may be prokaryotic (preferably Escherichia coli, Bacillus sp., Lactobacillus sp. or Lactococcus sp.), or eukaryotic (preferably either a fungus selected from Aspergillus, Trichoderma , Mucor , Kluyveromyces or Saccharomyces , or a plant (including seeds) selected from soybean, corn or rapeseed). The phytase is of use in (animal) feedstuffs, either to reduce the environmental impact of phosphorous from livestock production, or to reduce the multivalent metal ion binding anti-nutritional effect of phytate.

IPC 1-7
C12N 15/55; **C12N 9/16**; **C12N 1/21**; **C12N 1/15**; **C12N 1/19**; **A01H 5/00**; **C12N 15/82**; **A23K 1/165**; **A23L 1/03**; **C12Q 1/42**

IPC 8 full level
A23K 1/165 (2006.01); **A23L 5/20** (2016.01); **A23L 11/30** (2016.01); **C12N 9/16** (2006.01); **C12N 15/55** (2006.01); **C12N 15/82** (2006.01)

CPC (source: EP)
A23K 20/189 (2016.05); **A23L 5/25** (2016.07); **A23L 11/33** (2016.07); **C12N 9/16** (2013.01); **C12N 15/8242** (2013.01); **C12N 15/8257** (2013.01); **C12Y 301/03026** (2013.01)

Citation (search report)
See references of WO 9820139A2

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
GB 2319030 A 19980513; **GB 9623133 D0 19970108**; AU 7002198 A 19980529; BR 9712731 A 19991026; CA 2269773 A1 19980514; EP 0942993 A2 19990922; PL 333097 A1 19991108; WO 9820139 A2 19980514; WO 9820139 A3 19980723

DOCDB simple family (application)
GB 9623133 A 19961105; AU 7002198 A 19971104; BR 9712731 A 19971104; CA 2269773 A 19971104; EP 9706076 W 19971104; EP 97948873 A 19971104; PL 33309797 A 19971104