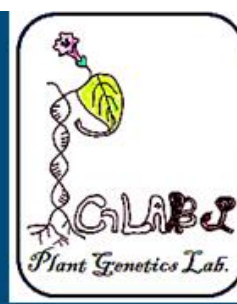




UNIVERSITÀ
DEGLI STUDI
FIRENZE

BIO
Dipartimento
di Biologia



Patrizia Bogani

BANDO REGIONALE FARFAS 2014

PROGETTO: Sviluppo di sensori biofotonici per la determinazione di OGM nell'ambiente – SENSOGM-

Obiettivo specifico N1:

- Identificatori di biomarcatori (sequenze di DNA transgeniche e prodotti proteici correlati) di interesse ambientale e*
- produzione di organismi transgenici*

OR BIO:

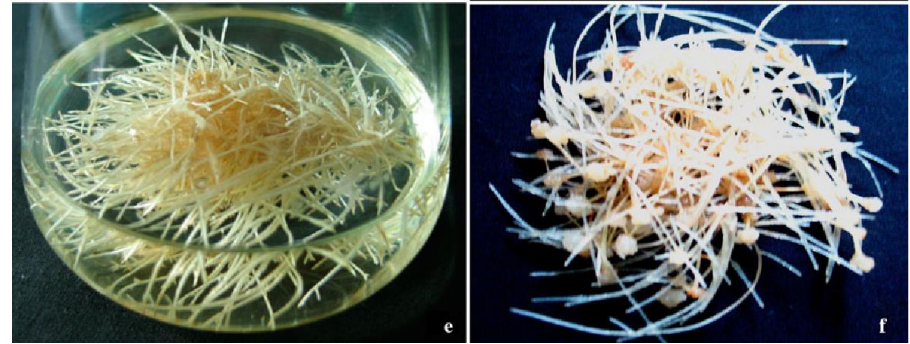
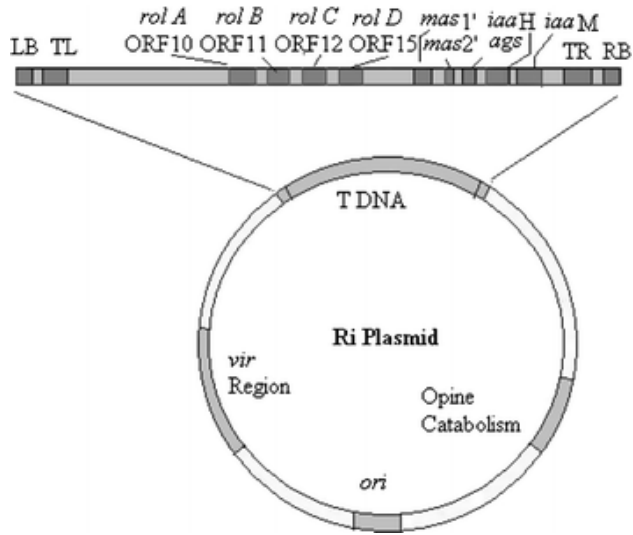
Obiettivo operativo OO1 leader: *Produzione e caratterizzazione molecolare di organismi transgenici per l'identificazione di target molecolari da usare come marcatori di tracciabilità.*

Attività di ricerca:

- ✓ *utilizzo e preparazione di piante e microrganismi transgenici da usare come materiale biologico per l'individuazione di marcatori di tracciabilità.*
- ✓ *Caratterizzazione molecolare con tecniche di PCR e PCR real-time, metodi standard di riferimento accreditati per la tracciabilità di OGM.*

Prodotti: *pianta intera e/o macerati fogliari; microrganismi e/o lisati cellulari. DNA genomico, plasmidico, amplificati PCR.*

Modello Biologico: piante in vitro transgeniche per il gene *rolC* di *Agrobacterium rhizogenes*

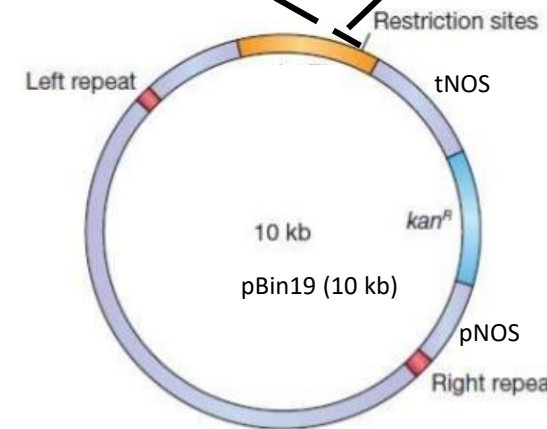


N. langsdorffii wild type

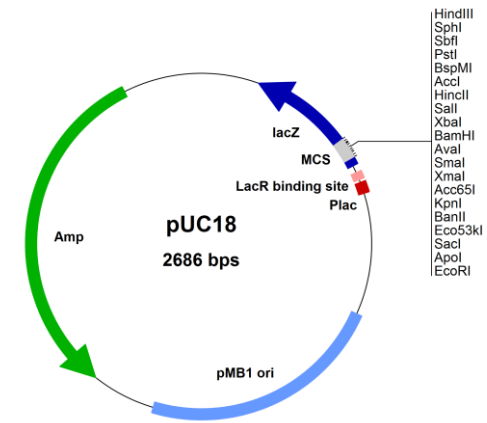


N. langsdorffii_rolC

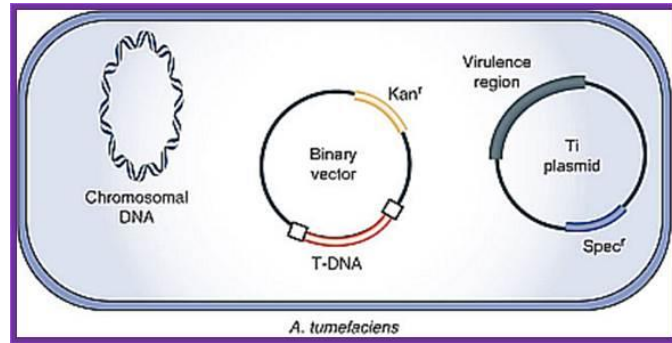
HE-A. rhi1855-TDNA fragment harboring ORF12(1858 bp)



pBIN19::*rolC* vector



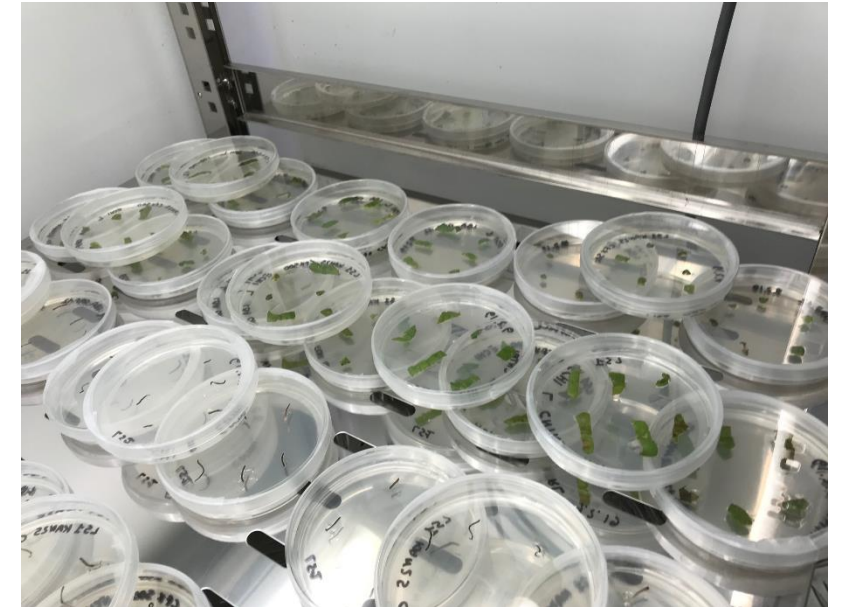
Trasformazione genetica di *Echinacea purpurea* con il gene rolC



A. tumefaciens strain LBA4404::pBin19ORF12



E. purpurea



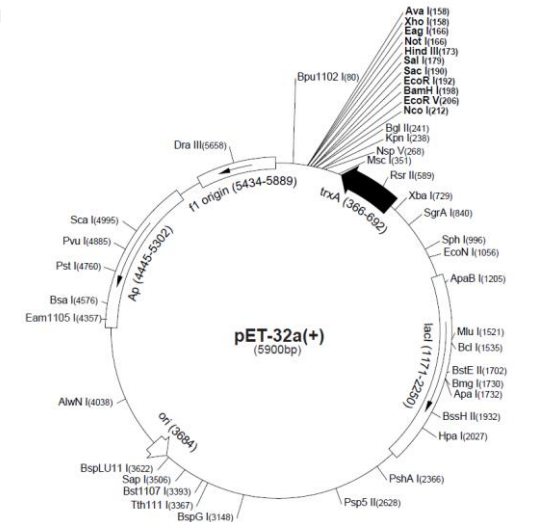
rolC sequence (GenBank: X03433.1)

ATGGCTGAAGACGACCTGTGTTCTCTCTTTTTCAAGCTCAAAGTGGAGGATGTGACAAGCAGCGATGAGCTAGCTAGACACATGAAGAA
CGCCTCAAATGAGCGTAAACCCTTGATCGAGCCGGGTGAGAATCAATCGATGGATATTGACGAAGAAGGAGGGTTCGGTGGGCCACGGG
CTGCTGTACCTCTACGTCGACTGCCCGACGATGATGCTCTGCTTCTATGGAGGGTCCTTGCCTTACAATTGGATGCAAGGCGCACTCCTCA
CCAACCTTCCCCCGTACCAG**GCATGATGTGACTCTCGATGAG**GGTCAATAGAGGGCTCAGGCAAGCATCAGGTTTTT**TTCGGTTACGCGGATC**
CTATGCGGAGCGCCTACTTCGCTGCATTTTCTTTCCCTGGGCGTGTCATCAAGCTGAATGAGCAGATGGAGCTAACTTCGACAAAGGGA
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CGGCTAAT

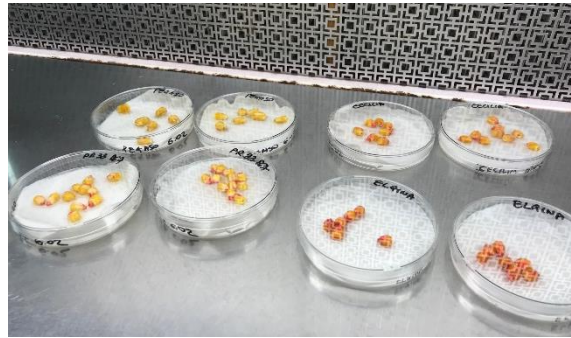
544 bp

MAEDDLCSLFFKLVEDVTSSDELARHMKNASNERKPLIEPGENQSMDIDEEGGSVGHGLLYLYV
DCPTMMLCFYGGSLPYNW MQGALLTNLPPYQHDVTLDEVNRGLRQASGFFGYADPMRSAYFAA
FSFPGRVIKLNEMELTSTK GKCLTFDLYASTQLRFEPGELVRHGECKFAIG

180 aa (~ 20 KD)



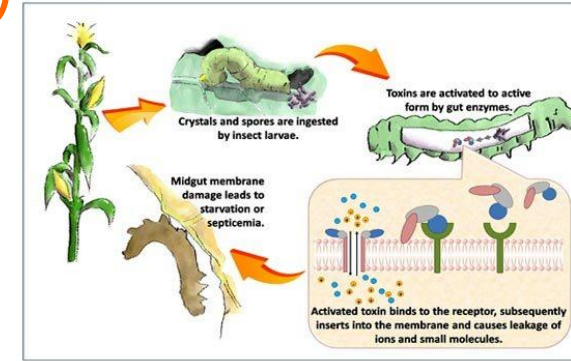
Mais MON810 resistente alla piralide (*Ostrilia nubilalis*)



e35S Hsp70
intron

cry1(A)b

Endotossina di *B. thuringiensis*



Cry(A)b 2447 bp

atggacaacaaccacaacatcaacgagtgcatcccgtacaactgcctcagcaaccctgaggtcgaggtgctcggcggtagcgcacatcgagaccggttacacccccatcgacatctccctctccctcagcgagttcctgctcagcgagttc
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818 aa ~90 KD