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***Agrobacterium vitis* A.tumefaciens biovar1**

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Agrobacterium vitis

A. tumefaciens biovar1

A. tumefaciens *A. vitis*

biovar1

(Slide agglutination test)

(Agar gel diffusion)

(Chloroplast agglutination)

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A. vitis *A. tumefaciens* biovar 1

.vitis vinifera Agrobacterium vitis :

Amplidaceae

vitis

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Agrobacterium vitis

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A.tumefaciens A.radiobacter ,A.rehizogenes

(PAGE)

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() () ()
(separating gel) *A.tumefaciens*
(staking gel) ()

(tris - glycin) -
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(
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(
(agglutination)
(chloroplast agglutination)

(agar gel diffusion)
() (agglutination)
(chloroplast agglutination) *A. vitis*
A. tumefaciens
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A. vitis
A. tumefaciens biovar 1
A. vitis
(Nutrient agar +1% Yeast Extract)YNA
(/)
(MixB) B
B
(2- mercaptoethanol)
A (Mix A) A
/ pH /
/ SDS

°C
(sodium dodecyl sulfate) SDS / .()

cm

(incomplet adjuvant)

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(sodium azide)

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A. vitis ()
A. tumefaciens

YNA

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A. vitis

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A. vitis

tumefaciens biovar 1

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A. vitis

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A. tumefaciens

A. vitis

A. tumefaciens

(Agar gel diffusion test)

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Agrobacterium

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| | | | <i>A. tumefaciens</i> biovar 1 |
| | | | <i>A. vitis</i> |
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| | | | (<i>A. tumefaciens</i> biovar 1) |
| <hr/> | | | |
| + | + | + | <i>Nicotiana tabacum</i> |
| + | | | <i>Pelargonium</i> sp . |
| | | | <i>Gamphrena globosa</i> |
| + | | | <i>Chenopodium quinoa</i> |
| | | | <i>Vigna unguiculatus</i> |
| | | | <i>Zea maiz</i> |
| | | | <i>Capsicum annum</i> |
| | | | <i>Beta vulgaris</i> |
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A. tumefaciens () () biovar 1

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Agrobacterinm

(*A. vitis*)

(*A. vitis*)

A. tumefaciens

A. tumefaciens biovar 1) biovar 1

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| | | <i>Agrobacterium</i> |
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| | | <i>A. tumefaciens</i> biovar 1 |
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| | | = = + |

A. tumefaciens biovar1 *A. vitis*

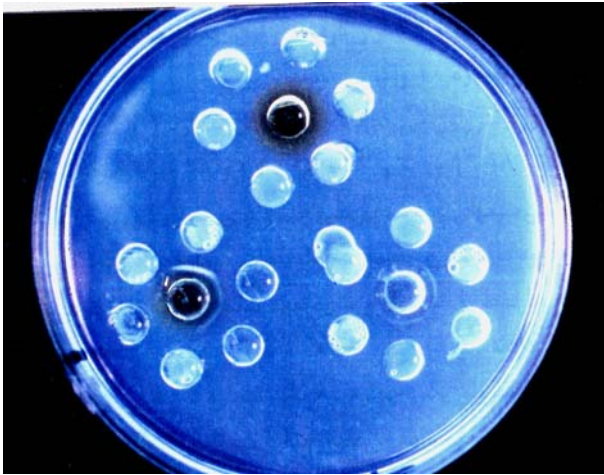
A. tumefaciens biovar 1

A. tumefaciens biovar 1)

A. tumefaciens biovar 1

A. vitis

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Agrobacterium

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A. vitis ()

A. tumefaciens biovar 1

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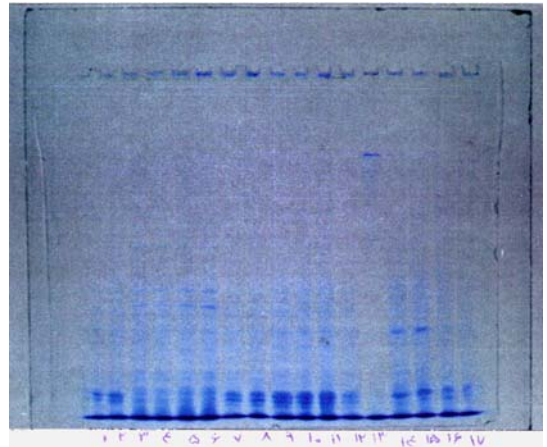
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Agrobacterium

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(ELISA) enzyme-linked immunosorbent assay

(SAT) slide agglutination test



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Agrobacterium

(*A. tumefaciens* biovar1

(*A.vitis*)

A. tumefaciens biovar 1)

A.vitis)

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A. vitis

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A. vitis

(*A.vitis*)

G-Ag-26 (A)G-Ag-27
(C) 60-G-Ag (B)
) G -Ag - 19 (D) NCPPB 2562

(*A. vitis*)

NCPPB NCPPB 1777

(2562

A.vitis
(*A.tumefaciens* biovar1)

A.

(*A.vitis*) *tumefaciens* biovar3

A.

tumefaciens biovar 3

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A. tumefaciens biovar 3

SAT

A. vitis

SAT

A. vitis

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(Agglutinaon)

(flagellate)

A.tumefaciens

A.vitis

biovar 1

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