ImmunoStrip® Validation Report

On-site Plant Pathogen Testing
Xanthomonas (Xan)
ISK/STX 14600

ImmunoStrip®

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Test Characteristics

Test Name	Xanthomonas
Catalog Number	14600
Acronym	Xan
Genus	Xanthomonas
Capture Antibody	Monoclonal (Mouse)
Detection Antibody	Monoclonal (Mouse)
Format	Lateral Flow Device
Diluents	SEB1
Sample Dilution	1:20

Summary

The Xanthomonas (Xan) ImmunoStrip® is used to detect the presence of Xanthomonas to the genus level and cannot differentiate species. It can detect Xanthomonas in fruits, ornamentals, and vegetables. ImmunoStrips® are the perfect screening tool for use in the field, greenhouse, and the lab.

Diagnostic Sensitivity

True Positives	125
Correct Diagnoses	122
Percent	97.6%

Analytical Specificity

Analytical Sensitivity

Inclusivity:

Species Detected and Analytical Sensitivity

Stenotrophomonas maltophilia	10^6 CFU/mL
X. albilibeans	Unknown
X. arboricola pv. pruni	Unknown
X. axonopodis pv. alii	6.9×10^4 CFU/mL
X. axonopodis pv. citri	Unknown
X. axonopodis pv. diffenbachia	Unknown
X. axonopodis pv. manihotis	10^6 CFU/mL
X. axonopodis pv. phaseoli var. fuscans	Unknown
X. campestris pv. aberrans	10^5 CFU/mL
X. campestris pv. armoraciae	Unknown
X. campestris pv. begonia	Unknown
X. campestris pv. campestris	6.4×10^4 CFU/mL
X. campestris pv. citromelo	Unknown
X. campestris pv. incanae	Unknown
X. campestris pv. phaseoli	10^5 CFU/mL
X. campestris pv. poinsettiicola	Unknown
X. campestris pv. raphani	10^5 CFU/mL
X. campestris pv. vesicatoria	4.0×10^5 CFU/mL

Species Detected and Analytical Sensitivity

X. campestris pv. vitians	10^5 CFU/mL
X. campestris pv. zinnia	10^7 CFU/mL
X. cannabis	$1.6x10^4$ CFU/mL
X. citri pv. aurantifolii	Unknown
X. citri pv. malvacearum	Unknown
X. cucurbitae	Unknown
X. euvesicatoria	$1.4x10^5$ CFU/mL
X. fragrariae	10^6 CFU/mL
X. gardneri	$6.7x10^7$ CFU/mL
X. hortorum pv. carotae	10^5 CFU/mL
X. hortorum pv. coriandricola	10^5 CFU/mL
X. hortorum pv. pelargonii	10^7 CFU/mL
X. oryzae pv. oryzae	Unknown
X. perforans	Unknown
X. translucens pv. poae	Unknown
X. translucens pv. translucens	Unknown
X. vasicola pv. vascolorum	Unknown

Exclusivity:

Cross-reacts With:

None Known	

Does Not Cross-react With:

Acidovorax avenae subsp. citrulli (Aac)	Agrobacterium tumefaciens
Allorhizobium vitis	Bacillus cereus
Bacillus subtilis	Bacillus thuringiensis
Clavibacter michiganensis subsp. michiganensis (Cmm)	Clavibacter michiganensis subsp. nebraskensis (Cmn)
Clavibacter michiganensis subsp. sepedonicus (Cms)	Clavibacter michiganensis subsp. tessellarius (Cmt)
Clavibacter michiganensis subsp. insidiosus (Cmi)	Cupriavidus basilensis
Curtobacterium flaccumfaciens pv. poinsettiae	Erwinia amylovora (Ea)
Erwinia aphidicola	Erwinia carotovora
Erwinia persicina	Erwinia rhapontici
Erwinia tracheiphila	Ochrobactrum lupini
Ochrobactrum sp. N11	Pantoea agglomerans
Pantoea ananatis	Pantoea stewartii (Pstew)
Pectobacterium atrosepticum (Patro)	Pectobacterium carotovorum
Pectobacterium chrysanthemi	Pseudomonas aeruginosa
Pseudomonas cichorii	Pseudomonas syringae pv. glycineae
Pseudomonas syringae pv. phaseolicola (Psph)	Pseudomonas syringae pv. porri
Pseudomonas syringae pv. syringae	Pseudomonas syringe pv. tomato
Ralstonia insidiosa	Ralstonia solanacearum (Rs)
Rhizobium Radiobacter	Rhizobium rhizogenes
Rhodococcus fascians	Serraia marcensens
Sphignomonas spp.	Spiroplasma citri (Sc)
Xylella fastidiosa (Xf)	

Diagnostic Specificity

True Negatives	144
Correct Diagnoses	143
Percent	99.3%

Selectivity:

No Matrix Effect Observed With:			
Arum leaves	Arum stem	Banana Leaves	Banana Stem
Bean Leaves	Bean stem	Begonia leaves	Begonia stem
Broccoli leaves	Broccoli stem	Brussels Sprout leaves	Cabbage leaves
Cabbage stem	Cannabis (Hemp) leaves	Cannabis (Hemp) roots	Cannabis (Hemp) stem
Carrot leaves	Carrot stem	Cauliflower leaves	Cauliflower stem
Corn leaves	Corn stem	Cotton leaves	Cotton stem
Garlic leaves	Garlic stem	Grapefruit leaves	Grapefruit stem
Leek leaves	Leek stem	Lettuce leaves	Lettuce stem
Melon leaves	Melon stem	Onion leaves	Onion stem
Orange leaves	Orange stem	Orchid leaves	Orchid stem
Peach leaves	Peach stem	Pelargonium leaves	Pelargonium stem
Pepper leaves[1]	Pepper stem	Petunia leaves	Petunia roots
Petunia stem	Poinsettia leaves	Poinsettia stem	Potato leaves
Potato stem	Radish leaves	Radish stem	Soybean leaves
Soybean stem	Strawberry leaves	Strawberry stem	Tobacco leaves
Tobacco roots	Tobacco stem	Tomato leaves	Tomato stem
Turnip leaves	Turnip stem	Watermelon leaves	Watermelon stem
Wheat leaves	Wheat leaves	Wheat stem	Wheat stem
Zinnia leaves	Zinnia stem		
[1]False positive observed in 1 out of 8 samples of Pepper			

Repeatability

Number of Samples	72
Replicates per Sample	3
Average Percent Agreement Between Replicates	100.0%

Reproducibility

Number of Samples	72
Replicates per Sample	3
Number of Operators	3
Average Percent Agreement Between Replicates Between Operators	97.2%