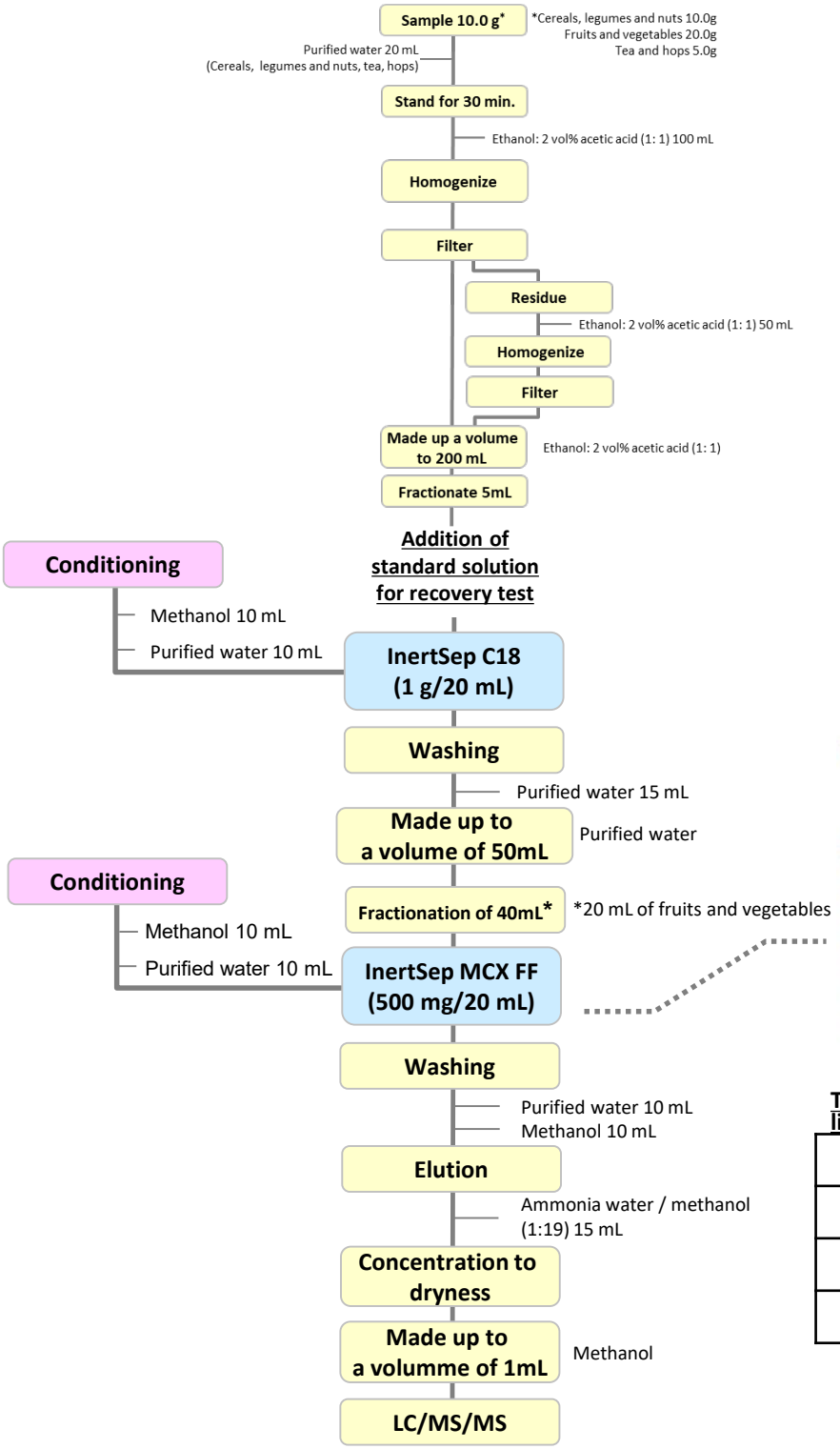
ST029
GL Sciences Inc.

Analysis of Kasugamycin

Kasugamycin is widely used as an agricultural fungicide. In this study, kasugamycin added to "brown rice", "orange", and "peanut" extracts was extracted and purified using a mixed-mode polymer solid-phase (InertSep MCX FF) with reference to a method complied with the notification test method of the Ministry of Health, Labor and Welfare. Analysed by LC / MS / MS.

1. Flow Chart of Solid Phase Pretreatment



InertSep MCX FF (500 mg / 20 mL)

Easy to operate
The wide diameter makes it easy to put in the solution.

Large space
A sufficient volume can be secured without connecting an empty reservoir.

Less prone to clogging
Due to the large wetted area, it will not suffer from clogging or deterioration in liquid permeability.

Easy liquid permeability
Dramatically improves liquid permeability.

Test result for collection of the extracted liquid

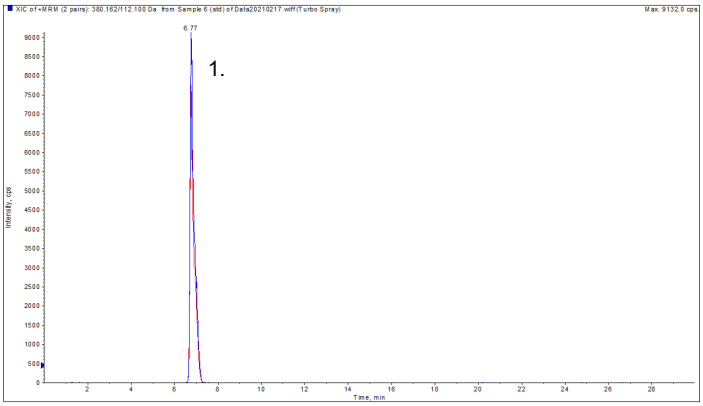
	Rec (%)	C.V. (%)
Brown rice	99.4	6.2
Orange	95.3	6.4
Peanut	89.7	5.3

（0.5 mg/kg, n=3 x 2 days in the sample ）

Ref: From the Kasugamycin test method of the Ministry of Health, Labor and Welfare (as of February 2021)
(https://www.mhlw.go.jp/file/06-Seisakujouhou-11130500-Shokuhinanzenbu/0000148183.pdf)

2. Measurement Conditions

Example for measurement of standard solution



HPLC conditions

Column : InertSustain Amide (5 µm, 150 x 2.1 mm I.D.)

Eluent : A) 0.1 % HCOOH in H_2O
B) CH_3CN

Time (min)	A%	B%
0.0	20	80
5.0	50	50
15.0	50	50

Flow rate : 0.3 mL/min

Column temperature : 40 ℃

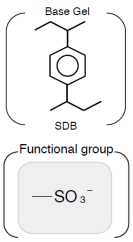
Detection : LC-MS/MS
(4000QTRAP : ESI, Positive, SRM)

Injection Vol. : 5 µL

Sample : 1.kasugamycin Q1/Q3=380/112 (Quantitation ions)
380/200 (Reference ions)
(100 µg/L)

3. Related Products

【InertSep MCX FF】



Average particle size	:	70 µm
Surface area	:	480 ㎡/g
Pore volume	:	1.1 mL/g
Pore size	:	9 nm
pH range	:	1～14

InertSep MCX FF is a styrenedivinylbenzene polymer (SDB) solid phase modified with a strong cation exchange group.
By exerting both a reverse-phase and cation exchange action, basic compounds can be strongly retained, It is extremely effective for the separation of acidic and neutral contaminants. Since the particle size is as large as 70um, it is ideal for biological sample extracts.

Description	Column size	Q'ty /pkg	Cat.No.
InertSep MCX FF	500 mg/20 mL	20 pcs	5010-62704

【InertSep C18】

$Si-(CH_2)_{17}CH_3$

InertSep C18 is a solid-phase with a non-polar interaction in which octadecyl groups are chemically bonded to silica gel. An advanced end-capping process suppresses the cation exchange interaction of the free silanol groups, resulting in less adsorption of basic compounds. Suitable as a clean-up solid-phase for degreasing in the simultaneous test method for residual pesticides.

Description	Column size	Q'ty /pkg	Cat.No.
InertSep C18	1 g/20 mL	20 pcs	5010-61014

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