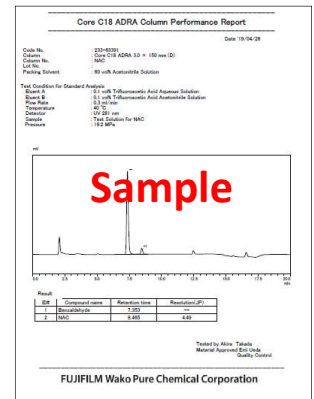


Column for ADRA

Wakopak® Core C18 ADRA

This product is a column suitable for the analysis of ADRA(OECD TG442C). It contains core-shell filler of 2.6µm in particle diameter. It is checked for each column that NAC, NAL and other chemicals are respectively separated.

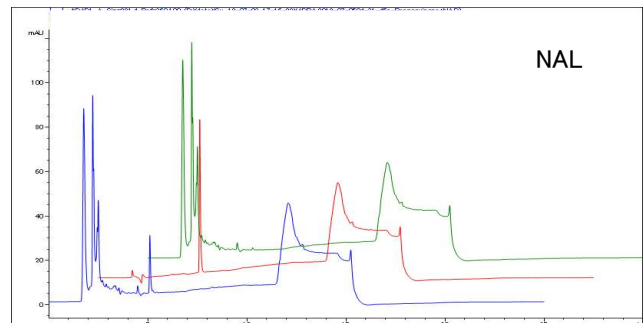
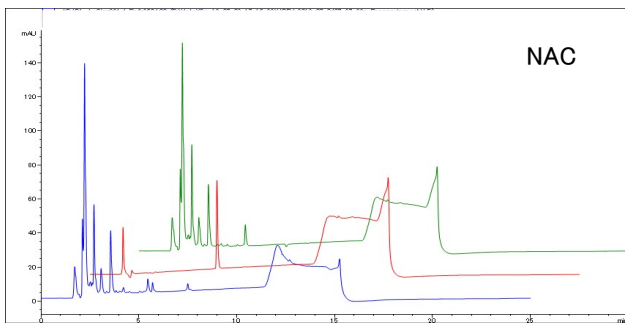


Each column has a "Column Performance Report".

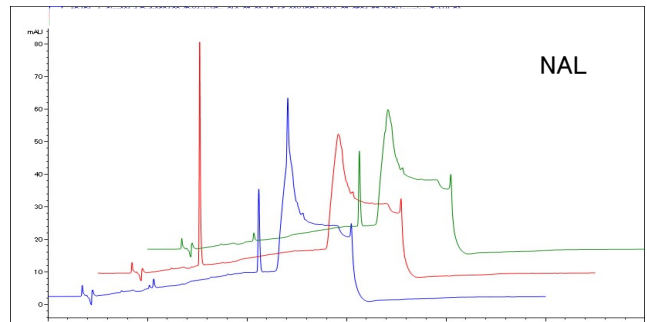
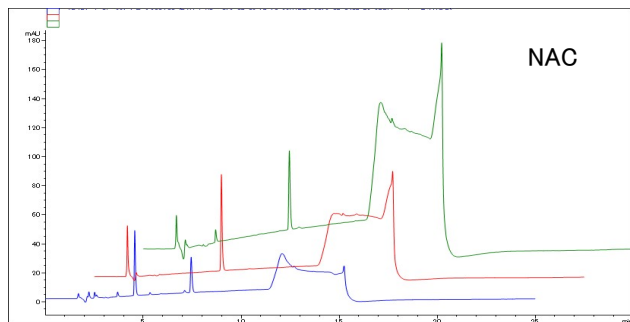
Analysis examples

Analysis examples of 10 proficiency substances recommended in OECD Test guideline.

1. p-Benzoquinone



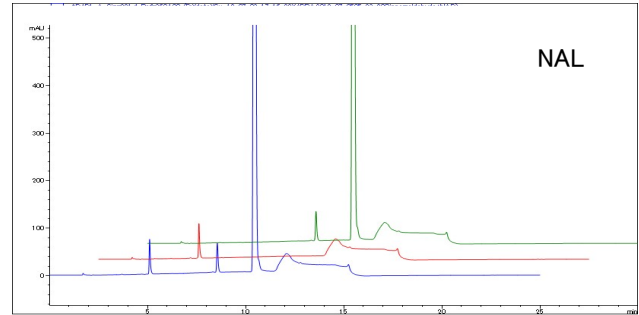
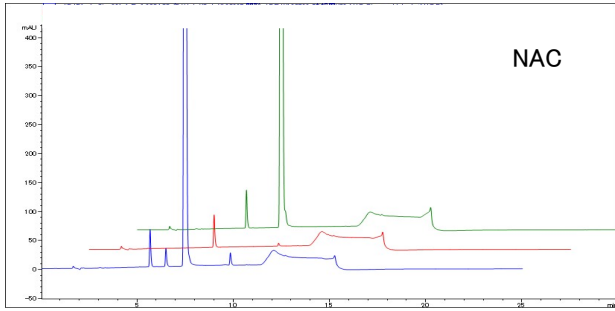
2. Sodium p-Toluenesulfonchloramide Trihydrate



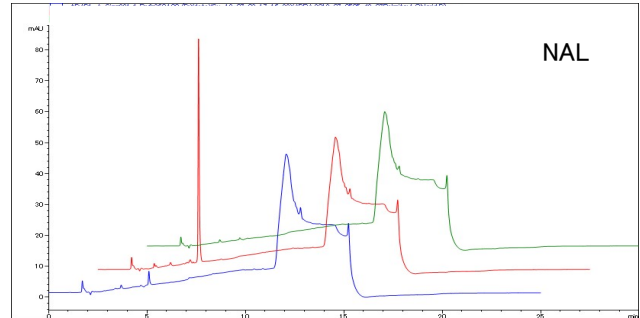
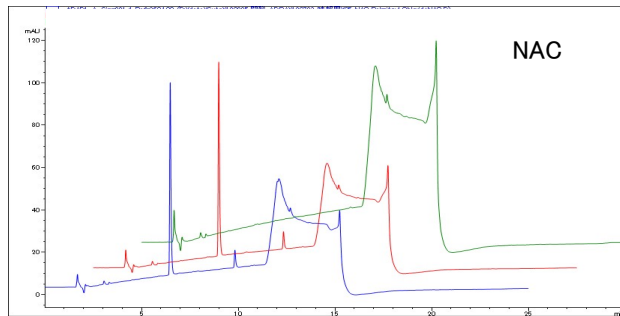
Green : Chemical Red : NAC or NAL Blue : Chemical + NAC or NAL

Analysis examples

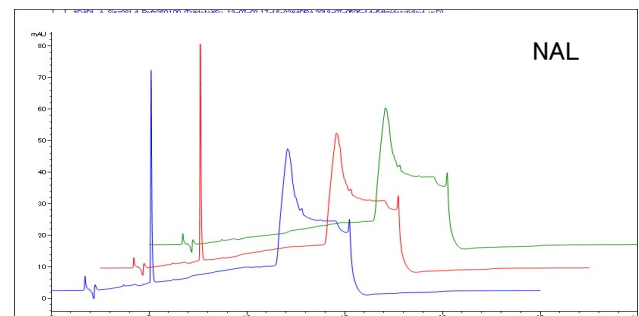
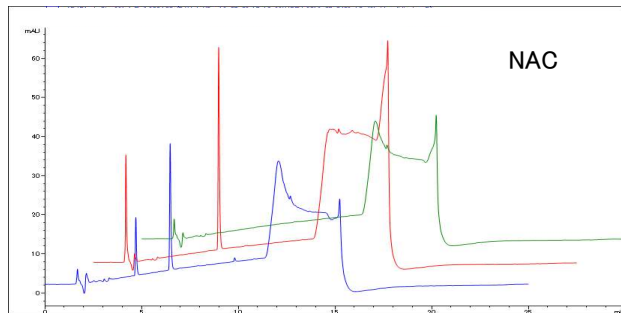
3. Cinnamaldehyde



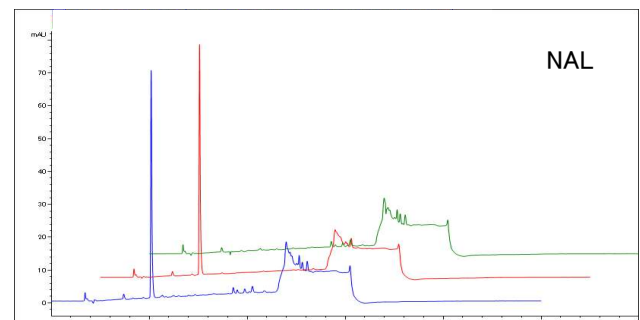
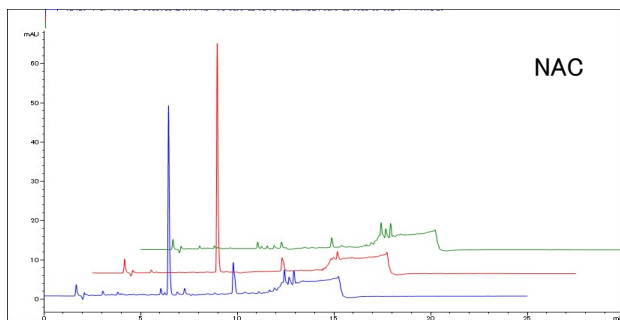
4. Palmitoyl Chloride



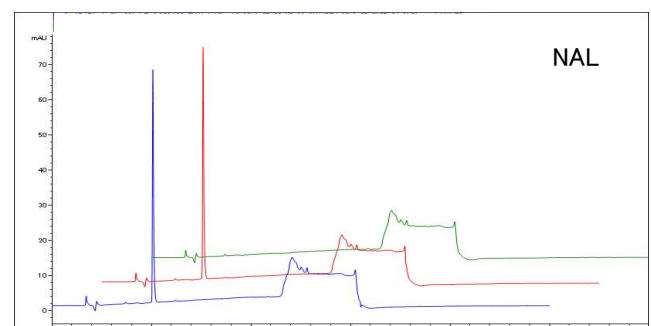
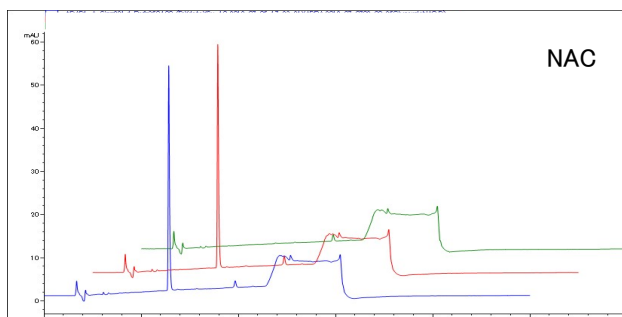
5. Imidazolidinyl Urea



6. Famesal

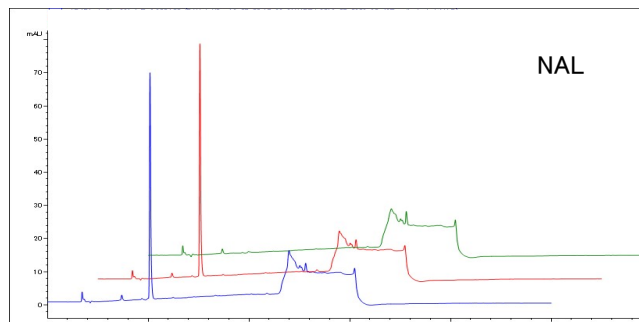
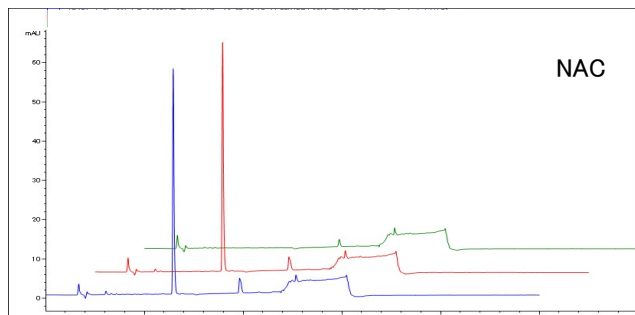


7. Glycerin

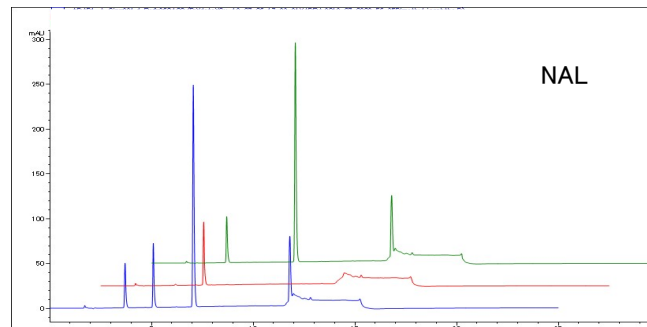
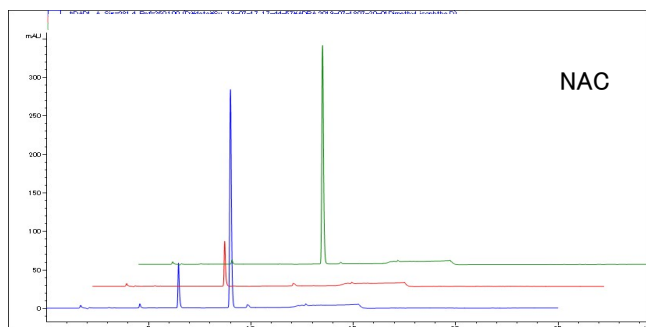


Green : Chemical Red : NAC or NAL Blue : Chemical + NAC or NAL

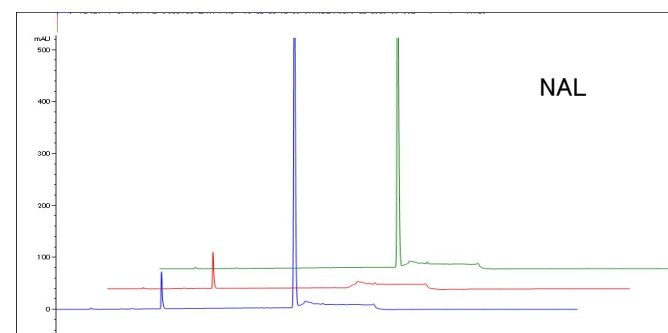
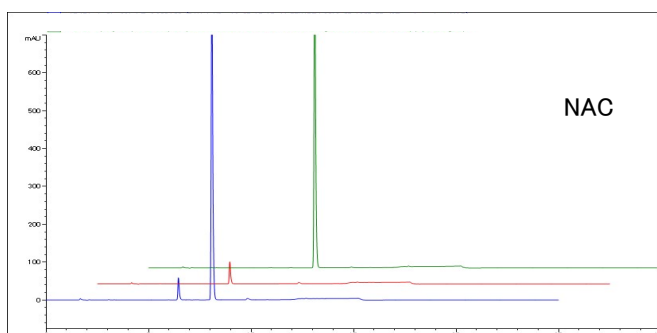
8. Benzyl Alcohol



9. Dimethyl Isophthalate



10. Propyl *p*-Hydroxybenzoate



Retention time may vary depending on the instrument you use.

Green : Chemical Red : NAC or NAL Blue : Chemical + NAC or NAL

HPLC Conditions

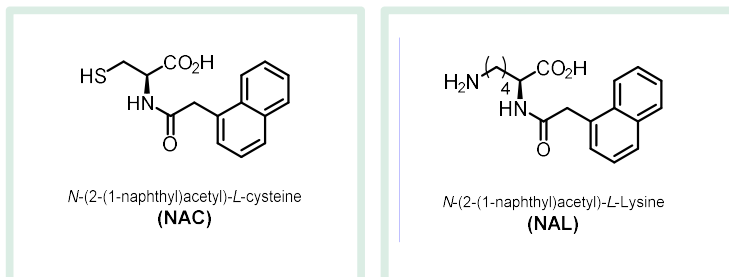
Instrument	Agilent UHPLC 1290 infinity II (Agilent)
Column	Wakopak® Core C18 ADRA 3.0×150 mm (D)
Mobile phase A	0.1 % Trifluoroacetic Acid-Water
Mobile phase B	0.1 % Trifluoroacetic Acid-Acetonitrile
NAC Gradient conditions	0min.(A : B=70 : 30)→9.5min.(45 : 55)→10.0min(0 : 100) →13.0min.(0 : 100)→13.5min.(70 : 30)→25.0min.(70 : 30)
NAL Gradient conditions	0min.(A : B=80 : 20)→9.5min.(55 : 45)→10.0min(0 : 100) →13.0min.(0 : 100)→13.5min.(80 : 20)→25.0min.(80 : 20)
Flow rate	0.3 mL/min
Mixer volume	35 µL
Column temperature	40 °C
UV detector	UV 281 nm
Injection Quantity	10 µL

Code No.	Product Name	Package Size
233-63991	Wakopak® Core C18 ADRA Φ3.0mm*150mm	1 Column

Non-animal method for predicting skin sensitization (OECD TG442C) ADRA Kit

ADRA (**A**mino acid **D**erivative **R**eactivity **A**ssay) is a *in chemico* test method, representing an alternative (non-animal) method for the evaluation of skin sensitization compounds. The kit comprises two amino acid derivatives, NAC (N-(2-(1-naphthyl)acetyl)-L-cysteine) and NAL (α -N-(2-(1-naphthyl)acetyl)-L-lysine), which are composed out of a nucleophilic region and a detection molecule (naphthalene rings).

ADRA is proposed to address the molecular initiating event of skin sensitization AOP (**A**dverse **O**utcome **P**athway) by quantifying the reactivity of the test compounds against the model synthetic amino acid derivatives. The reaction is monitored by HPLC-analysis after 24 hours incubation at 25°C and 281 nm, determining the relative residual concentration of NAC and NAL in the reaction liquid.




Advantages of ADRA

- NAC and NAL are detected at a relatively long wavelength (281 nm).
 - Preventing co-elution of the test chemical and the nucleophilic reagent.
- ADRA avoids precipitation by using only 1% of reactants of the existing method.
- Variability of result values are very low.
 - In ADRA, the reaction is stopped by the addition of a fixing solution (2.5%TFA) before analyzing
- Multiple test chemicals can be assayed in a short period of time.
 - The test procedure is performed using a single 96-well plate and a multichannel pipette.

Kit Reagents



Components	Amount
NAC	2 vials × 10 ml
NAL	2 vials × 10 ml
NAC Buffer (pH 8.0) premixed	2 vials × 300 ml
NAL Buffer (pH 10.2) premixed	2 vials × 300 ml
0.01 mol/l EDTA Solution	2 vials × 1 ml

Code No.	Product Name	Package Size
296-80901	ADRA Kit 	1 Kit

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