Technical documentation

Product name:	**qRE Panax ginseng C.A.Mey., roots**
Substance:	Panax ginseng C.A.Mey., roots dry extract
Plant source common names:	en: Ginseng; fr: Ginseng
Reference:	E0106
Packaging:	100 mg in a 1.5 ml borosilicate amber vial
Storage conditions:	Keep container closed. Protect from light and moisture. Keep inferior to -15 °C.
Retest:	12 months

Method of production of dry extract

Whole plant or plant parts are collected, dried and coarsely ground.
Extraction is performed by decoction in 50 % (v/v) aqueous ethanol (v/v) for 30 minutes. Ethanol is then evaporated under reduced pressure at less than 40 °C and the aqueous residue is freeze-dried.
Residual water content measurement is done by Karl Fischer titration.

Organoleptic characteristics of dry extract

Colour: Very light beige
Odour: Non characteristic
Form: Fine powder

Recommended methods for use

Weight a precise weight of qRE and solubilise in the recommended solvent at the concentration indicated in the HPLC or HPTLC method described in this document.
Sonicate for 90 seconds (70 W).
Filter on a 0.45 µm PVDF membrane and put the resulting solution into HPLC dispenser or apply on the HPTLC plate.
Dose and analyse your extract with qRExtract using the HPLC / HPTLC methods described in this document or using your own methods.

HPTLC

Detection of ginsenoside Rb1

Layer: 10 × 10 cm HPTLC Nano-Sil-20 UV 254 (Carl Roth ref. N084.1)

Thin layer conditionnement: 1 h at room temperature and 33 % relative humidity

Elution solvent:

Elution solvent compound	Volume (ml)
chloroform	65
methanol	50
water	10

Developing distance: 70 mm from the lower edge

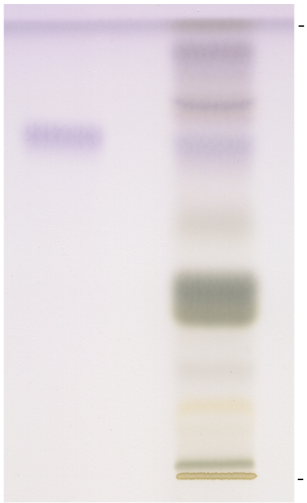
Initial spot volume and concentration:

ginsenoside Rb1: 1 µl of a 0.02 % (w/v) solution in methanol

qRE: 2 µl of a 4 % (w/v) solution in 50 % (v/v) aqueous ethanol

Reagent mixture: Anisaldehyde reagent

Preparation: Slowly mix 85 mL of ice-cooled methanol with 10 mL of glacial acetic acid and 5 mL of sulfuric acid. Allow the mixture to cool to room temperature, then add 0.5 mL of anisaldehyde (p-methoxy benzaldehyde) Dip the plate in the reagent mixture and dry for 10 minutes at 110 °C. Expose to visible light.

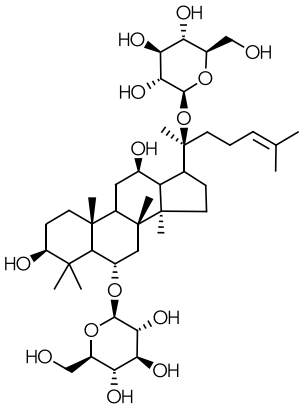
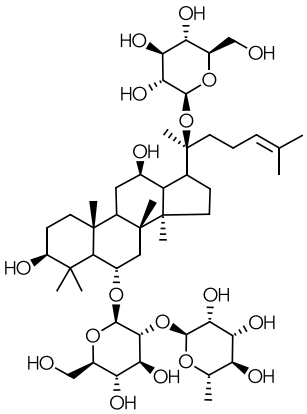


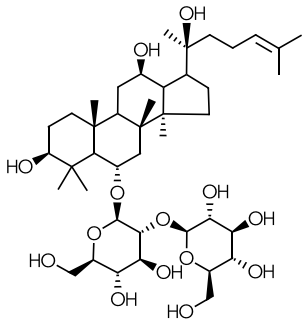
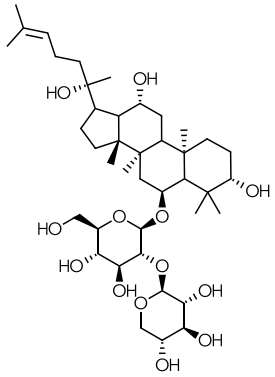
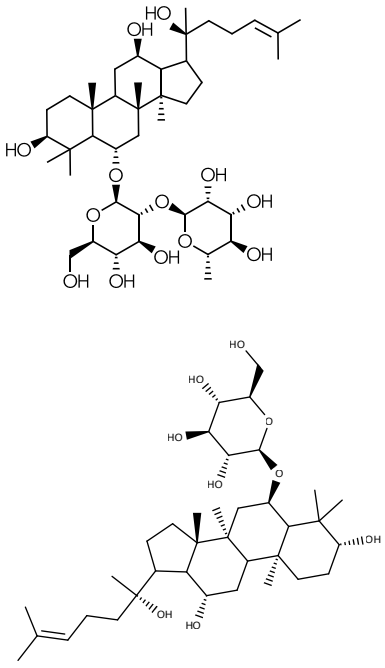
HPLC

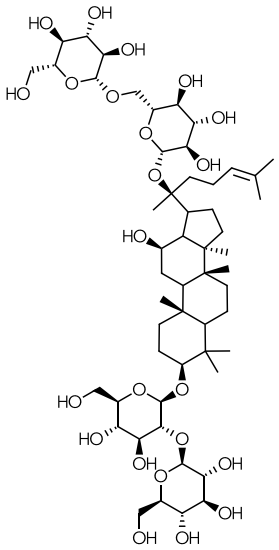
Precolumn: Ascentis® Express C18 0.5 cm × 3.0 mm 2.7 µm
Column: Ascentis® Express C18 15 cm × 3.0 mm 2.7 µm
Sample: 8 µl 5 % qRE® (w/v) solution in 50 % (v/v) aqueous ethanol
Flow: 0.45 ml/min
Temperature: 25 °C
Mobile phase: A: 0.1 % formic acid (v/v) in water
B: 0.1 % formic acid (v/v) in acetonitrile
Detection: Diode Array Detector, 210 nm
Gradient:

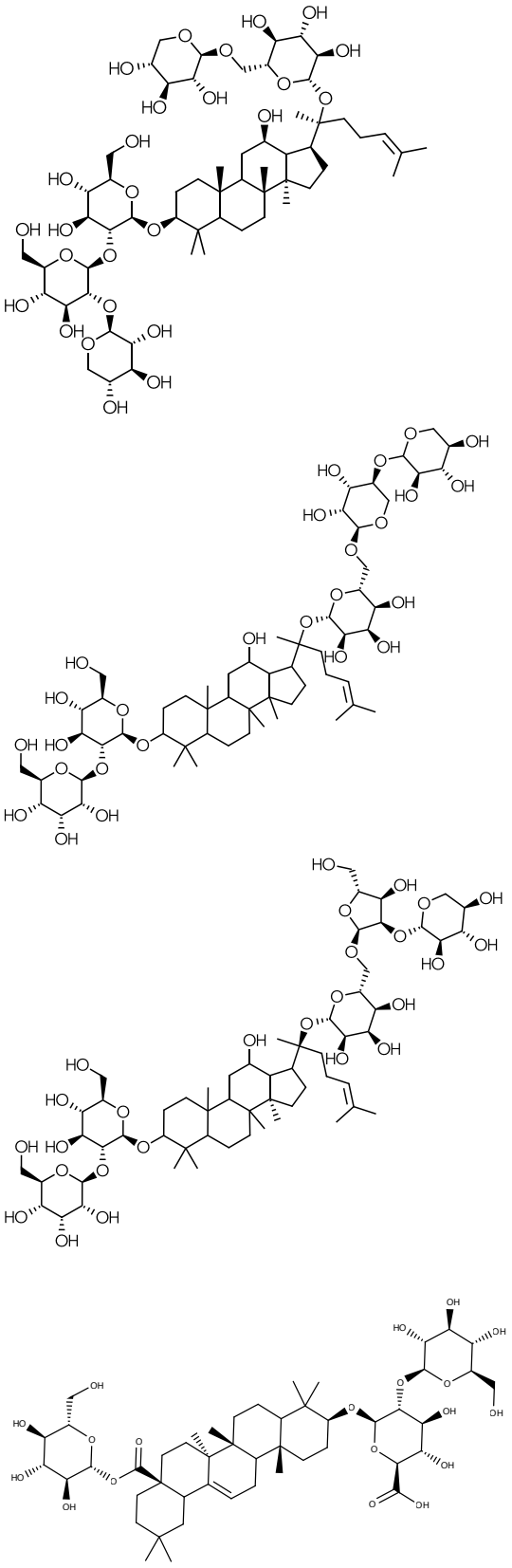
Time (mn)	A %	B %
0	97	3
20	80	20
60	60	40
65	45	55

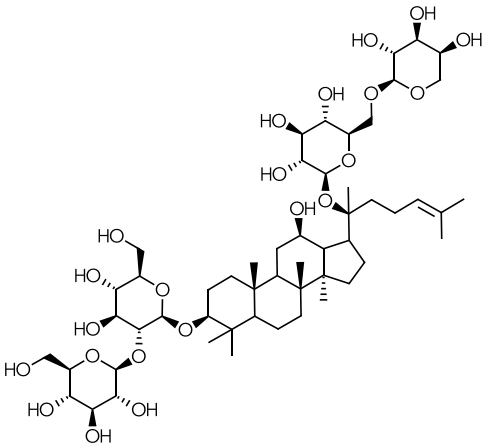
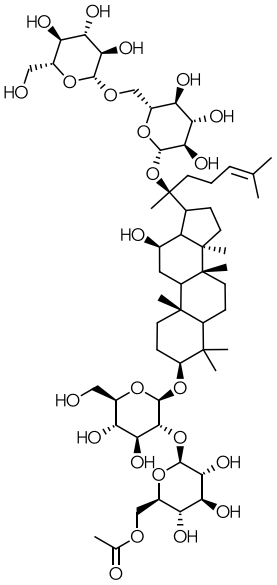
Quantified substances

Compound	CAS No	2D Structure	Peak No
Ginsenoside Rg1	22427-39-0		1
Ginsenoside Re	52286-59-6		2

Compound	CAS No	2D Structure	Peak No
Ginsenoside Rf	52286-58-5		3
Notoginsenoside R2	80418-25-3		4
Ginsenoside Rg2 + Ginsenoside Rh1	52286-74-5 + 63223-86-9		5

Compound	CAS No	2D Structure	Peak No
Ginsenoside Rb1	41753-43-9		6

Compound	CAS No	2D Structure	Peak No
Ginsenoside Fc and/or Ginsenoside Ra1 and/or Ginsenoside Ra2 + Ginsenoside Ro	NA + 83459-41-0 + 83459-42-1 + 34367-04-9		7

Compound	CAS No	2D Structure	Peak No
Ginsenoside Rb2	11021-13-9		8
Acetylated ginsenoside Rb1	NA		9
Unknown	NA	NA	10, 11