**What is “Rare sugars”?**

“Rare sugars” are monosaccharides and their derivatives that seldom occur in nature. D-Psicose, D-Tagatose and D-Allose are representative of rare sugars. For example, D-Psicose has 70% sweetness of table sugar and almost zero calorie. It inhibits blood sugar level elevation and prevents arteriosclerosis. Due to these beneficial attributes, D-Psicose is expected to be widely applied in medicine, functional food and cosmetics.

Sugar-D HPLC column is designed specifically for sugar analysis. It can resolve rare sugars including D-Psicose.

![COSMOSIL Chromatogram Index](COSMOSIL Chromatogram Index)

**D- Psicose**

Sample: D-Psicose
CAS No.: [551-68-8]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile: H₂O = 80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 2.0 µl
Retention time: 6.20 min
Capacity factor: 1.35

**D- Tagatose**

Sample: D-(-)-Tagatose
CAS No.: [87-81-0]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile: H₂O = 80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 2.0 µl
Retention time: 7.41 min
Capacity factor: 1.80

**D- Allose**

Sample: D-(+)-Allose
CAS No.: [2595-97-3]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile: H₂O = 80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 3.0 µl
Retention time: 8.04 min
Capacity factor: 2.04

**D- Altrose**

Sample: D-Altrose
CAS No.: [1990-29-0]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile: H₂O = 80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 2.0 µl
Retention time: 7.28 min
Capacity factor: 1.76

For research use only, not intended for diagnostic or drug use.

**D- Alditol**

**COSMOSIL Chromatogram Index**

Sample:  D- Alditol (Galactitol)
CAS No.: [608-66-2]
Molecular formula: C₆H₁₄O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile/ H₂O=80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 3.0 µl
Retention time: 9.48 min
Capacity factor: 2.59

**L- Gulose**

**COSMOSIL Chromatogram Index**

Sample:  L-Gulose
CAS No.: [6027-89-0]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile/ H₂O=80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 4.0 µl
Retention time: 8.44 min
Capacity factor: 2.19

**L- Sorbose**

**COSMOSIL Chromatogram Index**

Sample:  L(-)-Sorbose
CAS No.: [87-79-6]
Molecular formula: C₆H₁₄O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile/ H₂O=80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 2.0 µl
Retention time: 8.12 min
Capacity factor: 2.07

**D- Talitol**

**COSMOSIL Chromatogram Index**

Sample:  D-Talitol
CAS No.: [643-01-6]
Molecular formula: C₆H₁₂O₆
Column: Sugar-D
Column size: 4.6mm I.D. - 250mm
Mobile phase: Acetonitrile/ H₂O=80/20
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD
Attenuation: Gain=6, Atten=9
Sample conc.: 1.0mg/ml
Injection volume: 3.0 µl
Retention time: 8.85 min
Capacity factor: 2.33

More Sugar-D application data are available on our website (http://www.nacalai.co.jp/cosmosil/data/csmosrchtop.cfm). Or you can search “COSMOSIL Application” by search engine.