Product Name

Cereal Protein Extracts, for product numbers and names see table below.

<table>
<thead>
<tr>
<th>Albumin + globulin</th>
<th>Barley</th>
<th>Rye</th>
<th>Wheat</th>
<th>Wheat Durum</th>
<th>Spelt</th>
<th>Oat</th>
<th>Millet (Secale)</th>
<th>Rice</th>
<th>Corn</th>
<th>Soy*</th>
</tr>
</thead>
<tbody>
<tr>
<td>G018</td>
<td>G021</td>
<td></td>
<td>G036</td>
<td>G030</td>
<td></td>
<td>G033</td>
<td>G045</td>
<td>G027</td>
<td>G024</td>
<td>G042</td>
</tr>
<tr>
<td>Prolamin</td>
<td>Hordein</td>
<td>Secalin</td>
<td>G037</td>
<td>G040</td>
<td>G031</td>
<td></td>
<td>G034 Avenin</td>
<td>G046</td>
<td>G028</td>
<td>G043</td>
</tr>
<tr>
<td>Glutelin</td>
<td>Hordein</td>
<td>Secalin</td>
<td>G038</td>
<td>G041</td>
<td>G032</td>
<td></td>
<td>G035 Avenalin</td>
<td>G047</td>
<td>G029</td>
<td>G044</td>
</tr>
</tbody>
</table>

* Corresponding protein extracts

Background info

Cereals have a protein content of about 10%, which are classified by their solubility according to Thomas Burr Osborne (1919, The vegetable proteins.):

- Albumins + globulins: soluble in saline
- Prolamins: soluble in ethanol
- Glutelins: soluble in propanol/urea/DTE

Prolamins and glutelins like gliadin and glutenin from wheat play a crucial role in celiac disease pathophysiology.

Description

Cereal proteins were extracted according to the method of Wieser et al. as published in Ruh et al., 2014.

Albumins and globulins are lyophilized from 0.4 M NaCl, 67 mM Na2HPO4, pH7.6.

Prolamins are lyophilized from 60% ethanol.

Glutelins are lyophilized from 50% Propanol-1 (v/v), 2 M Urea, 10 mM DTE, 50 mM Tris HCl, pH 7.5.

Figure 1:
Silver stained SDS-PAGE gel of albumin + globulin fractions (5 µg protein per lane).
Protein content was determined with Bradford Assay.
* Corresponding protein extracts
Figure 2:
Silver stained SDS-PAGE gel of prolamin fractions (5 µg protein per lane).
Due to poor stainability 50 µg oat prolamin (G034), 20 µg rice prolamin (G028) and 20 µg corresponding soy protein extracts (G043) have been loaded.
Protein content was determined by weighting the freeze-dried material.
* Corresponding protein extracts

Figure 3:
Silver stained SDS-PAGE gel of glutelin fractions (5 µg protein per lane).
Protein content was determined by comparison with weighted prolamins on silver stained SDS-PAGE (figure 2).
* Corresponding protein extracts

Quantity
5 mg

Protein content of albumins and globulins was determined using Bradford Assay against BSA as reference.
Prolamin quantities were determined by weighting the freeze-dried material (± 0.1 mg per vial).
Glutelin quantities were determined by comparison with weighted prolamins on silver stained SDS-PAGE.

Appearance
White lyophilized solid

Reconstitution
Add the volume of water or buffer specified in the certificate of analysis under aliquotation to the vial of lyophilized powder. Rotate vial gently until solid dissolves. After reconstitution, the solution should be stored frozen in working aliquots.

Storage
Store at -20°C, desiccate

Reference
Wieser et al., Cereal Chem. 1998, 75:644-50
Product Data Sheet

Product number: Various (see table below)
Revision number: RN1.1

Related products:
- A011 - Monoclonal antibody to gliadin (clone XGY1)
- A057 - Monoclonal antibody to deamidated Gliadin
- A062 - Monoclonal antibody to deamidated and non-deamidated Gliadin
- A035 - Monoclonal antibodies to gliadin (Set No 1 comprising 12 gliadin antibodies: clone XGY1; XGY2; XGY4; XGY5; XGY8; XGY10; XGY12; XGY15; XGY16; XGY17; XGY23 and XGY24)

Release date: 11 May 2015

NOTE: INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.