

## PROTEOMIC CHARACTERIZATION OF C-TYPE LMW-GS IN DURUM WHEAT

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C-type low molecular weight glutenin subunits (LMW-GSs) are components of the glutenin polymer (Molecular Weight 30-40 KDa) quantitatively present in a lower amount and studied to a limited extent, with respect to typical LMW-GS (also known as B-subunits). They are considered structurally gliadins but functionally glutenins, because they form inter-molecular disulphide bonds, result of mutations of their encoding genes that affect the number and/or the distribution of cysteine residues. N-terminal amino-acid sequencing confirmed that they are made up of  $\alpha/\beta$  and  $\gamma$ -gliadin-like components encoded by genes present at the *Gli-1* and *Gli-2* loci. The presence of gliadin-like subunits in glutenin preparations, presumably have a negative effect on flour quality. Several studies have been addressed to investigate the structural features and the effects of the typical LMW-GSs on gluten strength, whereas less attention has been dedicated to the C-type group.

In order to characterize the specific polypeptides present in the C-type subunit group, two dimensional electrophoretic separation (2-DE) of an enriched fraction of C-type subunits from durum wheat cv Svevo has been carried out and selected protein spots from the gel were excised and subsequently analyzed by mass spectrometry. Peptide mass spectrometric data were used to perform protein identification in the Peptide Mass Fingerprint (PMF) mode and subsequently the peptide sequences information by the Peptide Fragment Fingerprint (PFF) approach to confirm the data obtained.

Results of proteins identified in the C-type glutenin subunit fraction will be presented.