## Sorting the 'gluten $3^{\prime}$

| Characteristic | Celiac disease (CD) | Gluten sensitivity (GS) | Wheat allergy (WA) |
| :--- | :--- | :--- | :--- |
| Time interval between <br> gluten exposure and <br> onset of symptoms | Weeks to years | Hours to days | Minutes to hours |
| Pathogenesis | Autoimmunity (innate <br> and adaptive immunity) | Immunity? (Innate <br> immunity?) | Allergic immune response |
| HLA | HLA DQ2/8 restricted <br> (~97\% positive cases) | Not HLA DQ2/8 restricted <br> (50\% DQ2/8 positive cases) | Not HLA DQ2/8 restricted (35\%-40\% posi- <br> tive cases as in the general population) |
| Autoantibodies | Almost always present | Always absent | Always absent |
| Enteropathy | Almost always present | Always absent (slight increase <br> in intraepithelial lymphocytes) | Always absent (eosinophils in the lamina <br> propria) |
| Symptoms | Both intestinal and extraintes- <br> tinal (indistinguishable from <br> GS and WA with Gl symptoms) | Both intestinal and extraintes- <br> tinal (indistinguishable from <br> CD and WA with Gl symptoms) | Both intestinal and extraintestinal <br> (indistinguishable from CD and GS <br> when presenting with GI symptoms) |

[^0]
[^0]:    Adapted with permission from Fasano A. "Gluten Freedom." Wiley General Trade/Turner Publishing Company; 2014.

