

ABSTRACT

**Identification and Characterization of Volatile Components Causing the
Characteristic Flavor of Wagyu Beef (Japanese Black Cattle)**

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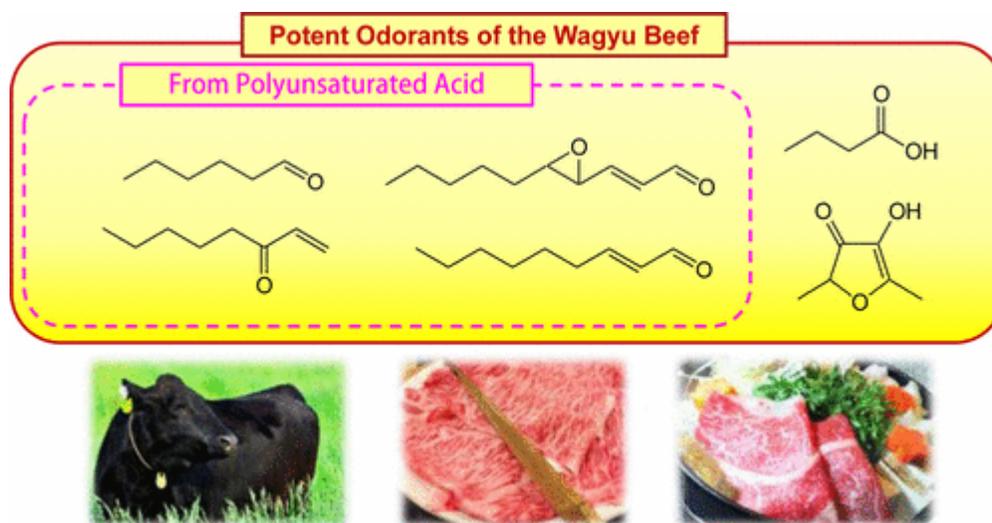
J. Agric. Food Chem., 2017, 65 (39), pp 8691–8695

DOI: 10.1021/acs.jafc.7b02843

Publication Date (Web): September 10, 2017

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Cite this: J. Agric. Food Chem. 2017, 65, 39, 8691-8695



To clarify the characteristic sweet aroma of Wagyu (Japanese Black Cattle), aroma extraction dilution analysis (AEDA) was applied to the volatile fractions of Wagyu and Australia beefs. Some 20 odor-active peaks were detected, and 17 odorants were identified or tentatively identified. Among the perceived odorants, most of them were newly identified from the Wagyu beef. The main constituents of the potent odorants were aldehydes and ketones, which are known as the degradation products of polyunsaturated fatty acids that were significantly included in the lipids of the Wagyu. In addition, the most potent odorant was *trans*-4,5-epoxy-(*E*)-2-decenal, which is known to be the oxidation product of polyunsaturated acids, such as linoleic acid and arachidonic acid, that were significantly included in the lipids of the Wagyu. Accordingly, these findings strongly suggested that the kind of fatty acid constituting lipids of the Wagyu plays an important role in the formation of the characteristic aroma of the Wagyu beef.

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