

Detection and Quantification of Animal Body Fat (Tallow)/Vegetable Fat in Milk Fat/Ghee

<i>Salient features</i>	<ul style="list-style-type: none"> ➤ Standardized method to isolate DNA from milk fat/animal body fat/vegetable fat. ➤ Detection of buffalo DNA up to 1% in the mixture of cattle and buffalo DNA using qPCR assay. ➤ Detection of vegetable fat DNA up to 5% in the milk fat using rbcl PCR assay. ➤ The new method validated using the unknown commercial tallow (animal body fat) to detect cattle and buffalo DNA.
<i>Advantages</i>	<ul style="list-style-type: none"> ✓ Standardized droplet digital PCR assay to detect cow and buffalo DNA as well as vegetable DNA in the commercial ghee without having to use known DNA samples. ✓ In the ddPCR assay of cow milk fat, even few copies of DNA of particular species can be detected for cow and buffalo DNA as well as vegetable fat DNA.
<i>Process Technology / Product developed by</i>	<p>Dr. S. Vaithyanathan, Department of Animal Biochemistry ICAR-National Research Centre (NRC) on Meat, Chengicherla, Boduppal (Post), Hyderabad, Telangana State svaith@gmail.com Dr S. Kalpana, Dr. Rituparna Banerjee, NRC on Meat, Hyderabad, Telangana State</p>
<i>Year</i>	2015-16
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<i>More information</i>	<p>Status of commercialization / Patent / Publication</p> <p>Vaithyanathan, S., Vishnuraj, M.R., Srinivas, K., Reddy, N.G., Kalpana, S., Banerjee, R. and Prakash, B. 2018. Simultaneous detection of beef and buffalo tallow using multiplex real time PCR, IUFoST, Abstract No. 637, pp 497.</p> <p>Sahana, M., Fairoze, N., Vaithyanathan, S., Ruben, W., Sudarshan, S., Namratha, K. B. and Priyanka, V.S. 2017. A comparison of DNA extraction methods for fats and rendered fats analysis. Paper presented in the National Seminar on Food Adequacy and Climate Change: Strategies for sustainable food production, AMST, Trissur, Nov. 3-4.</p>