

Real Time PCR Lupin DNA Detection Kit

Test system for the qualitative detection of lupin DNA in food products by PCR Real time

Product code: IC-02-1028 (50 tests) / IC-02-1029 (25 tests)

Brief description

LupiKit Real Time PCR provides reagents for the qualitative detection of lupin DNA in several food products, fresh and processed. The PCR Real Time kit amplifies a DNA fragment that is present solely in lupin. The amplified DNA segment is detected by hybridisation with a probe labelled with fluorescent dyes. The increase in fluorescence is continuously measured in a PCR real-time detection instrument.

Lupin is considered allergenic food and it is explicitly mentioned in the European Food Labelling Directive.

LupiKit Real Time PCR is an useful tool to monitor the food allergens to ensure compliance with food labelling (2003/89/EC Directive) and to improve consumer protection.

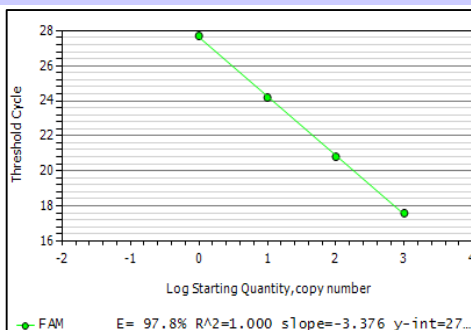
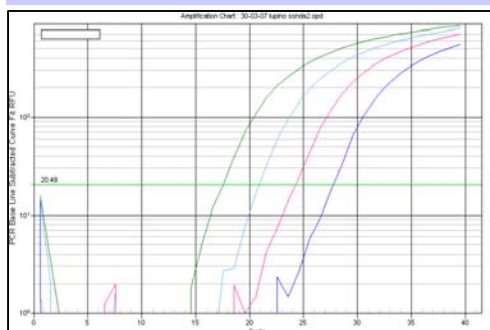
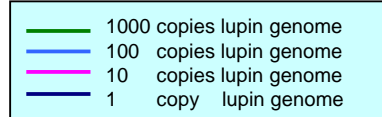


Figure 1: Test sensitivity for *Lupikit* DNA Detection kit.



Technical features

Number of tests 25/50 target DNA specific reactions

Kit components Mix *Test Lupin* (with duplex inhibition control) – DNA positive control – sterile H₂O DNase free

Specificity the kit has been tested with DNA extracted from both raw material and processed food. The specificity of the system has been validated with several other species normally used in food production (see the Panel below). No cross-reactivity effects have been revealed.

Limit of Detection 1 copy of Lupin haploid genome, equal to roughly 1 pg of *Lupinus luteus* DNA (see Fig.1).

Detection Probe labelled with fluorescent dyes Taqman® - FAM and JOE

Specificity control group tested **negative** for cross-reactivity:

- | | | |
|--|---|---|
| Adzuki (<i>Vigna angularis</i>) | Broad bean (<i>Vicia faba</i>) | Pear (<i>Pyrus communis</i>) |
| Lobster crab (<i>Palinurus mauritanicus</i>) | Strawberry (<i>Fragaria ananassa</i>) | Pea (<i>Pisum sativum</i>) |
| Lobster (<i>Homarus americanus</i>) | Wheat (<i>Triticum aestivum</i>) | Pistachio nut (<i>Pistacia vera</i>) |
| Apricot (<i>Prunus armeniaca</i>) | Durum wheat (<i>Triticum durum</i>) | Chicken (<i>Gallus gallus</i>) |
| Peanut (<i>Arachis hypogaea</i>) | Prawn black tiger (<i>Penaeus monodon</i>) | Tomato (<i>Lycopersicon esculentum</i>) |
| Oat (<i>Avena sativa</i>) | Giuggiola (<i>Zizyphus jujuba</i>) | Grapefruit (<i>Citrus paradisi</i>) |
| Chard (<i>Beta vulgaris</i>) | Raspberry (<i>Rubus idaeus</i>) | Leek (<i>Allium porrum</i>) |
| Bombolino (<i>Nassarius mutabilis</i>) | Lettuce (<i>Lactuca sativa</i>) | Parsley (<i>Petroselinum crispum</i>) |
| Bovine (<i>Bos taurus</i>) | Lentil (<i>Lens esculenta</i>) | Plum (<i>Prunus domestica</i>) |
| Broccoli (<i>Brassica oleracea</i> convar. <i>botrytis</i> cult. <i>italica</i>) | Yeast (<i>Saccharomyces cervisiae</i>) | Chicory (<i>Chichorium intybus</i>) |
| Squid (<i>Loligo edulis</i>) | Lemon (<i>Citrus lemon</i>) | Rice (<i>Oryza sativa</i>) |
| Carrot (<i>Daucus carota</i>) | Maize (<i>Zea mays</i>) | Rucola (<i>Eruca sativa</i>) |
| Chestnut (<i>Castanea sativa</i>) | Almond (<i>Prunus dulcis</i>) | Salvia (<i>Salvia officinalis</i>) |
| Cauliflower (<i>Brassica oleracea</i> convar. <i>botrytis</i>) | Apple (<i>Malus x domestica</i>) | Celery (<i>Apium graveolens</i>) |
| Chick-pea (<i>Cicer arietinum</i>) | Eggplant (<i>Solanum melanogena</i>) | Sesame (<i>Sesamum indicum</i>) |
| Cicerchia (<i>Lathyrus pratensis</i>) | Cod (<i>Gadus morhua</i>) | Soya (<i>Glycine max</i>) |
| Cherry (<i>Prunus avium</i>) | Blackberry (<i>Rubus fruticosus</i>) | Man (<i>Homo sapiens</i>) |
| Onion (<i>Allium cepa</i>) | Hazelnut (<i>Corylus avellana</i>) | Thymus (<i>Thymus vulgaris</i>) |
| Cumino (<i>Carum carvi</i>) | Brazil nut (<i>Bertholletia excelsa</i>) | Tuna (<i>Thunnus albacore</i>) |
| Dragoncello (<i>Artemisia dracunculus</i>) | Macadamia nut (<i>Macadamia ternifolia</i>) | Alfalfa (<i>Trifolium pratense</i>) |
| Medical grass (<i>Medicago sativa</i>) | Pecan nut (<i>Carya illinoensis</i>) | Savoy cabbage (<i>Brassica oleracea</i> convar. <i>capitata</i> cult. <i>sabauda</i>) |
| French bean (<i>Phaseolus vulgaris</i>) | Walnut (<i>Juglans regia</i>) | Clam (<i>Chamelea gallina</i>) |
| Bean (<i>Phaseolus vulgaris</i>) | Origan (<i>Origanum vulgare</i>) | Pumpkin (<i>Cucurbita maxima</i>) |
| Spelt (<i>Triticum dicoccum</i>) | Barley (<i>Hordeum vulgare</i>) | Courgette (<i>Cucurbita pepo</i>) |
| | Potato (<i>Solanum tuberosa</i>) | |