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# Establishing phyto-pharmacognostical quality standards and HPTLC marker-based analysis of Panchavalkal Kwatha Churna-An Ayurvedic formulation

Ch Venkata Narasimhaji[a], Suman Mandal[b], Rajesh Bolleddu[a,c,*], Yashika Gandhi[c], Dattatray Dighe[d], Subhose Varanasi[a], Manosi Das[a], Das Debajyoti[a], A K Meena[e], Gajji Babu[a], Ravindra Singh[c], Narayanam Srikanth[e] & Rabinarayan Acharya[e]

[a]Central Ayurveda Research Institute, CCRAS, Ministry of AYUSH, Kolkata 700 091, West Bengal, India
[b]Captain Srinivasa Murthy Central Ayurveda Research Institute, CCRAS, Ministry of AYUSH, Chennai 600 106, Tamil Nadu, India
[c]Central Ayurveda Research Institute, CCRAS, Ministry of AYUSH, Jhansi 284 003,Uttar Pradesh, India
[d]Central Ayurveda Research Institute, CCRAS, Ministry of AYUSH, Mumbai 400 018, Maharashtra, India
[e]Central Council for Research in Ayurvedic Sciences, Ministry of AYUSH, New Delhi 110 058, India
[*]E-mail: rajesh_bolleddu@rediffmail.com

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## Supplementary Data

Supplementary Table S1 — Heavy metal analysis of PKC formulation

| Tests | Results (in cfu/gm) | | | Permissible Limit as in API (in ppm) |
|---|---|---|---|---|
| | Batch-1 | Batch-2 | Batch-3 | |
| Lead | Not detected | Not detected | 0.10 | 10 |
| Arsenic | Not detected | Not detected | 0.10 | 3.0 |
| Mercury | Not detected | Not detected | 0.05 | 1.0 |
| Cadmium | Not detected | Not detected | 0.10 | 0.3 |

Supplementary Table S2 — Aflatoxins estimation inPKC formulation (Batch-I,II and III)

| Parameter | Results | Permissible Limit as in API (in ppm) |
|---|---|---|
| $B_1$ | Not detected[#1] | 0.5 |
| $B_2$ | Not detected[#1] | 0.1 |
| $G_1$ | Not detected[#1] | 0.5 |
| $G_2$ | Not detected[#1] | 0.1 |

[#1] Limit of Detection = 1 ppb

Supplementary Table S3 — Microbial LoadinPKC formulation

| Tests | Results (in cfu/gm) | | | Permissible Limit as in API (in cfu/gm) |
|---|---|---|---|---|
| | Batch-I | Batch-II | Batch-III | |
| Total Microbial plate Count | 1210 | 1000 | 1125 | $< 10^5$cfu/gm |
| Yeast and mould count | 100 | 90 | 90 | $<10^3$cfu/gm |

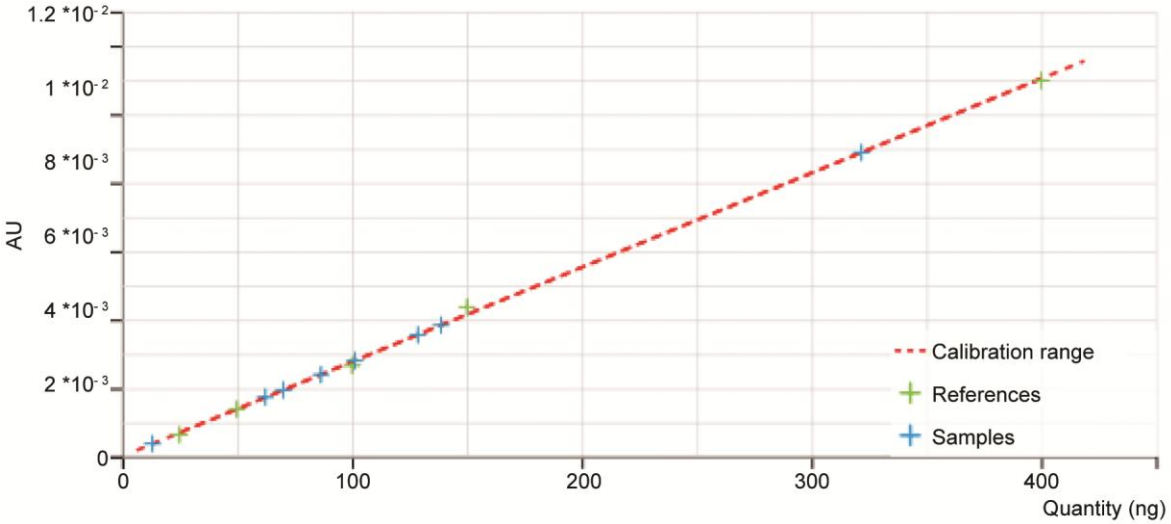
Table S4 — Specific Pathogens test of inPKC formulation (Batch-I,II and III)

| Tests | Results | Permissible Limit as in API |
|---|---|---|
| *Escherichia* coli | Absent | Should be absent |
| *Salmonella* spp. | Absent | Should be absent |
| *Staphylococcus aureus* | Absent | Should be absent |
| *Pseudomonas aeruginosa* | Absent | Should be absent |

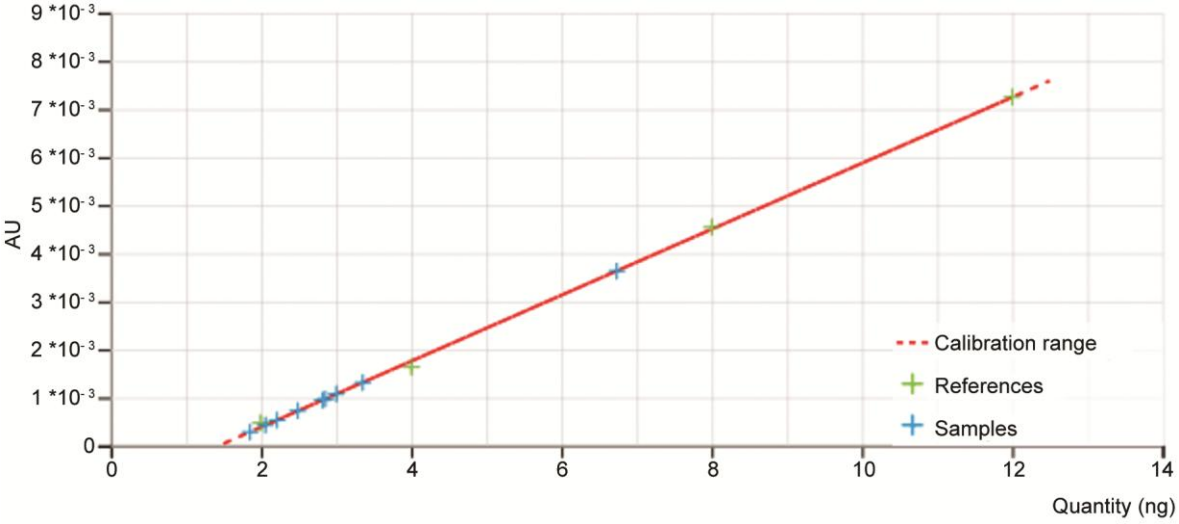
Supplementary Table S5 — Pesticide Residuesin PKC formulation (Batch-I, II and III)

| Substance (s) | Result [$] (in ppm) | Permissible limit prescribed in API (in ppm) |
|---|---|---|
| Alachlor | Not Detected | 0.02 |
| Aldrin and Dieldrin (sum of) | Not Detected | 0.05 |
| Azinophos-methyl | Not Detected | 1.0 |
| Bromopropylate | Not Detected | 3.0 |
| Chlordane(sum of cis, trans- and oxychlordane) | Not Detected | 0.05 |
| Chlorfenvinphos | Not Detected | 0.5 |
| Chlorpyrifos | Not Detected | 0.2 |
| Chlorpyrifos-methyl | Not Detected | 0.1 |
| Cypermethrin (and isomers) | Not Detected | 1.0 |
| DDT (sum of p,p-DDT, p,p-DDE and p,p-TDE) | Not Detected | 1.0 |
| Deltamethrin | Not Detected | 0.5 |
| Diazinon | Not Detected | 0.5 |
| Dichlorvos | Not Detected | 1.0 |
| Dithiocarbamates (as CS2) | Not Detected | 2.0 |
| Endosulfan (sum of isomers and endosulfansulphate) | Not Detected | 3.0 |
| Endrin | Not Detected | 0.05 |
| Ethion | Not Detected | 2.0 |
| Fenitrothion | Not Detected | 0.5 |
| Fenvalerate | Not Detected | 1.5 |
| Fonofos | Not Detected | 0.05 |
| Heptachlor (sum of Heptachlor and Heptachlorepoxide) | Not Detected | 0.05 |
| Hexachlorobenzene | Not Detected | 0.1 |
| Hexachlorocyclohexane isomers (other than ɤ) | Not Detected | 0.3 |
| Lindane (ɤ- Hexachlorocyclohexane) | Not Detected | 0.6 |
| Malathion | Not Detected | 1.0 |
| Methidathion | Not Detected | 0.2 |
| Parathion | Not Detected | 0.5 |
| Parathion-methyl | Not Detected | 0.2 |
| Permethrin | Not Detected | 1.0 |
| Phosalone | Not Detected | 0.1 |
| Piperonyl Butoxide | Not Detected | 3.0 |
| Primiphos-methyl | Not Detected | 4.0 |
| Pyrethrins (sum of isomer) | Not Detected | 3.0 |
| Quintozene (sum of pentachloroaniline and methyl pentachlorophenylsulphide) | Not Detected | 1.0 |

[$] Limit of Detection = 10 ppb (GC-MS-MS)




Supplementary Fig. S1 — Standard curve of caffeic acid




Supplementary Fig. S2 — Standard curve of gossypol