



## Isolation and characterization of native *Rhizobium* from root nodules of raikia french bean growing area of Odisha

Himani Verma, Ranjan Kumar Patra, Debadatta Sethi\* and Sushanta Kumar Pattanayak  
Department of Soil Science and Agricultural Chemistry, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar-751 003, Odisha, India

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### Supplementary Data

Suppl. Table 1 — The OC and pH of collected soil

Sl. No.	Name of the Villages	pHw(1:2.5)	OC (gkg <sup>-1</sup> )
1.		4.76	6.73
2.	Kabara	4.75	8.77
3.		6.04	8.97
4.	Pradhanpada	6.21	11.12
5.		6.21	8.36
6.		7.09	8.36
7.		7.01	16.11
8.	Badhabhui	6.09	16.13
9.		6.23	12.85
10.		6.61	9.58
11.	Allshi	6.86	14.48
12.	Balimunda	7.14	19.37
13.	Tanala	5.90	9.54
14.	Katadaganda	6.23	9.83
15.		6.42	9.38
16.	Nilgunia	7.23	9.30
17.		6.94	11.83
18.	Jakama	6.73	11.21
19.		6.24	7.9
20.		5.79	8.9
21.	Kantingia	5.79	5.30
22.	Panganar	6.64	9.5
23.	Padansuga	7.33	8.1
24.		5.40	6.3
25.	Patuli	6.24	5.91
26.	Debau	6.34	8.77
27.	Ligumaha	6.53	12.6
28.	Murkipoda	6.24	10.1
29.	Sakukuta	6.37	14.2
30.	Badanga	6.88	19.9

Suppl. Table 2 — Morphology of selected colonies

Sl. No	CODE	Elevation	Shape	Margin	Colour	Consistency
1	RBHR-1	Convex	Circular	Regular	White	Gummy
2	RBHR-2	Convex	Circular	Regular	White	Gummy
3	RBHR-3	Convex	Circular	Regular	White	Gummy
4	RBHR-4	Convex	Circular	Regular	White	Gummy
5	RBHR-5	Convex	Circular	Regular	White	Gummy
6	RBHR-6	Convex	Circular	Regular	White	Gummy
7	RBHR-7	Convex	Circular	Regular	White	Gummy
8	RBHR-8	Convex	Circular	Regular	White	Gummy
9	RBHR-9	Convex	Circular	Regular	White	Gummy
10	RBHR-10	Convex	Circular	Regular	White	Gummy
11	RBHR-11	Convex	Circular	Regular	White	Gummy
12	RBHR-12	Convex	Circular	Regular	White	Gummy
13	RBHR-13	Convex	Circular	Regular	White	Gummy
14	RBHR-14	Convex	Circular	Regular	White	Gummy
15	RBHR-15	Convex	Circular	Regular	White	Gummy
16	RBHR-16	Convex	Circular	Regular	White	Gummy
17	RBHR-17	Convex	Circular	Regular	White	Gummy
18	RBHR-18	Convex	Circular	Regular	White	Gummy
19	RBHR-19	Convex	Circular	Regular	White	Gummy
20	RBHR-20	Convex	Circular	Regular	White	Gummy
21	RBHR-21	Convex	Circular	Regular	White	Gummy
22	RBHR-22	Convex	Circular	Regular	White	Gummy
23	RBHR-23	Convex	Circular	Regular	White	Gummy
24	RBHR-24	Convex	Circular	Regular	White	Gummy
25	RBHR-25	Convex	Circular	Regular	White	Gummy
26	RBHR-26	Convex	Circular	Regular	White	Gummy
27	RBHR-27	Convex	Circular	Regular	White	Gummy
28	RBHR-28	Convex	Circular	Regular	White	Gummy
29	RBHR-29	Convex	Circular	Regular	White	Gummy
30	RBHR-30	Convex	Circular	Regular	White	Gummy
31	RBHR-31	Convex	Circular	Regular	White	Gummy
32	RBHR-32	Convex	Circular	Regular	White	Gummy
33	RBHR-33	Convex	Circular	Regular	White	Gummy
34	RBHR-34	Convex	Circular	Regular	White	Gummy
35	RBHR-35	Convex	Circular	Regular	White	Gummy
36	RBHR-36	Convex	Circular	Regular	White	Gummy
37	RBHR-37	Convex	Circular	Regular	White	Gummy
38	RBHR-38	Convex	Circular	Regular	White	Gummy
39	RBHR-39	Convex	Circular	Regular	White	Gummy
40	RBHR-40	Convex	Circular	Regular	White	Gummy
41	RBHR-41	Convex	Circular	Regular	White	Gummy
42	RBHR-42	Convex	Circular	Regular	White	Gummy
43	RBHR-43	Convex	Circular	Regular	White	Gummy
44	RBHR-44	Convex	Circular	Regular	White	Gummy
45	RBHR-45	Convex	Circular	Regular	White	Gummy
46	RBHR-46	Convex	Circular	Regular	White	Gummy
47	RBHR-47	Convex	Circular	Regular	White	Gummy
48	RBHR-48	Convex	Circular	Regular	White	Gummy
49	RBHR-49	Convex	Circular	Regular	White	Gummy
50	RBHR-50	Convex	Circular	Regular	White	Gummy

Suppl. Table 3 — Screening of nodule isolates by confirmatory tests

Sl. No.	Isolate	Gram's reaction	Shape	Growth in Hoffers's alkaline medium	Growth in Glucose peptone agar	Motility test	Absorption of color from YEMAC
1	RBHR-1	-ve	Rod	+ve	+ve	Motile	-ve
2	RBHR-2	-ve	Rod	-ve	-ve	Non Motile	-ve
3	RBHR-3	-ve	Rod	-ve	-ve	Non Motile	-ve
4	RBHR-4	-ve	Rod	-ve	-ve	Motile	+ve
5	RBHR-5	-ve	Rod	-ve	-ve	Motile	+ve
6	RBHR-6	-ve	Rod	-ve	+ve	Motile	+ve
7	RBHR-7	-ve	Rod	-ve	-ve	Non Motile	-ve
8	RBHR-8	-ve	Rod	-ve	-ve	Motile	-ve
9	RBHR-9	-ve	Rod	-ve	-ve	Non Motile	-ve
10	RBHR-10	-ve	Rod	-ve	-ve	Non Motile	-ve
11	RBHR-11	-ve	Rod	+ve	-ve	Motile	-ve
12	RBHR-12	-ve	Rod	-ve	-ve	Non Motile	+ve
13	RBHR-13	-ve	Rod	-ve	-ve	Non Motile	-ve
14	RBHR-14	-ve	Rod	-ve	+ve	Motile	-ve
15	RBHR-15	-ve	Rod	-ve	-ve	Motile	-ve
16	RBHR-16	-ve	Rod	-ve	-ve	Non Motile	-ve
17	RBHR-17	-ve	Rod	-ve	-ve	Non Motile	-ve
18	RBHR-18	-ve	Rod	-ve	-ve	Non Motile	+ve
19	RBHR-19	-ve	Rod	-ve	+ve	Non Motile	+ve
20	RBHR-20	-ve	Rod	-ve	-ve	Motile	-ve
21	RBHR-21	-ve	Rod	-ve	-ve	Motile	-ve
22	RBHR-22	-ve	Rod	+ve	-ve	Motile	-ve
23	RBHR-23	-ve	Rod	+ve	-ve	Motile	-ve
24	RBHR-24	-ve	Rod	+ve	+ve	Motile	-ve
25	RBHR-25	-ve	Rod	+ve	-ve	Motile	-ve
26	RBHR-26	-ve	Rod	+ve	-ve	Motile	-ve
27	RBHR-27	-ve	Rod	-ve	-ve	Non Motile	-ve
28	RBHR-28	-ve	Rod	-ve	-ve	Non Motile	-ve
29	RBHR-29	-ve	Rod	-ve	-ve	Motile	+ve
30	RBHR-30	-ve	Rod	-ve	-ve	Motile	+ve
31	RBHR-31	-ve	Rod	+ve	-ve	Motile	-ve
32	RBHR-32	-ve	Rod	-ve	-ve	Non Motile	-ve
33	RBHR-33	-ve	Rod	-ve	-ve	Motile	+ve
34	RBHR-34	-ve	Rod	-ve	-ve	Non Motile	-ve
35	RBHR-35	-ve	Rod	-ve	-ve	Motile	-ve
36	RBHR-36	-ve	Rod	+ve	-ve	Motile	-ve
37	RBHR-37	-ve	Rod	-ve	-ve	Non Motile	-ve
38	RBHR-38	-ve	Rod	-ve	-ve	Non Motile	-ve
39	RBHR-39	-ve	Rod	+ve	-ve	Non Motile	-ve
40	RBHR-40	-ve	Rod	-ve	+ve	Non Motile	-ve
41	RBHR-41	-ve	Rod	-ve	-ve	Non Motile	-ve
42	RBHR-42	-ve	Rod	-ve	-ve	Non Motile	-ve
43	RBHR-43	-ve	Rod	-ve	-ve	Non Motile	+ve
44	RBHR-44	-ve	Rod	+ve	-ve	Motile	-ve
45	RBHR-45	-ve	Rod	+ve	+ve	Motile	-ve
46	RBHR-46	-ve	Rod	-ve	+ve	Motile	-ve
47	RBHR-47	-ve	Rod	+ve	-ve	Motile	-ve
48	RBHR-48	-ve	Rod	+ve	-ve	Motile	-ve
49	RBHR-49	-ve	Rod	+ve	-ve	Motile	-ve
50	RBHR-50	-ve	Rod	+ve	-ve	Motile	-ve

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Suppl. Table 4 — Biochemical characterization of isolates

Strains	Anaerobic Growth	Production of H <sub>2</sub> S	TSI test	Gelatin Liquefaction	Simmon's Citrate Agar	Keto Lactose test	Nitrate reduction test	Indole Test	MR-VP Test	Production of ammonia from peptone
RBHR-15	-ve	+ve	+ve	-ve	-ve	-ve	+ve	+ve	+ve	+ve
RBHR-21	-ve	-ve	+ve	-ve	-ve	-ve	-ve	+ve	+ve	+ve

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