B. *In vitro* anti-diabetic testing report

1. **Sample Details:**

1.	**Name of the client/industry/company:**	Mr. N. K. Deka Baruah
2.	**Date of request:**	01st Oct 2021
3.	**No. of samples received:**	500 gm
4.	**Type of sample:**	Herbal solid (tea leaves)

2. **Purpose of the study:**

To explore the *in vitro* anti-diabetic potential of green tea samples obtained from Maheshwari Tea Estate, Dhemaji, Assam, India.

3. **Study design:**

To evaluate the *in vitro* anti-diabetic potential of the above mentioned samples using α-amylase inhibition method

4. **Methodology:**

Alpha-amylase inhibition activity: Different concentration of the Green tea aqueous extract were prepared at a strength of 20, 40, 60, 80 and 100 µg/ml and varying standard concentrations of acarbose were prepared at strength of 20, 40, 60, 80 and 100 µg/ml. Alpha amylase was added to the different conc. of the test and the extract and the reaction was checked for absorbance at 540 nm using a UV-visible spectrophotometer (Shimadzu, Japan).

The absorbance reading of the test and standard sample were plotted in the Excel sheet and their % of inhibition and IC_{50} value were determined.

5. **Report:**

IC_{50} value of the standard (Acarbose): 97.1028 µg/ml

IC_{50} value of the test (Green tea extract): 90.5882 µg/ml

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In vitro anti-oxidant testing report

1. Sample Details:

1	**Name of the client/industry/company:**	Mr. N. K. Deka Baruah
2	**Date of request:**	01st Oct 2021
3	**No. of samples received:**	500 gm
4	**Type of sample:**	Herbal solid (tea leaves)

2. Purpose of the study:

To explore the *in vitro* anti-oxidant potential of green tea samples obtained from Maheshwari Tea Estate, Dhemaji, Assam, India.

3. Study design:

To evaluate the *in vitro* anti-oxidant potential of the above mentioned samples using DPPH radical scavenging method.

4. Methodology:

DPPH radical scavenging method: Different concentration of the Green tea aqueous extract were prepared at a strength of 20, 40, 60, 80 and 100 µg/ml and varying standard concentrations of ascorbic acid were prepared at strength of 20, 40, 60, 80 and 100 µg/ml. DPPH were prepared was added to the different conc. of the test and the extract. The reaction was kept in dark for incubation and checked for their absorbance at 517 nm using a UV-visible spectrophotometer (Shimadzu, Japan).

The absorbance reading of the test and standard sample were plotted in the Excel sheet and their % of inhibition and IC 50 value were determined.

5. Report:

IC_{50} value of the standard (ascorbic acid): 102.53 µg/ml

IC_{50} value of the test (Green tea extract): 99.89 µg/ml

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***In vitro* anti-microbial testing report**

1. Sample Details:

1	**Name of the client/industry/company:**	Mr. N. K. Deka Baruah
2	**Date of request:**	01st Oct 2021
3	**No. of samples received:**	500 gm
4	**Type of sample:**	Herbal solid (tea leaves)

2. Purpose of the study:

To explore the *in vitro* anti-microbial potential of green tea samples obtained from Maheshwari Tea Estate, Dhemaji, Assam, India.

3. Study design:

To evaluate the *in vitro* anti-microbial potential of the above mentioned samples using agar disc-diffusion method.

Methodology:

Zone of Inhibition method: The antimicrobial tests were carried out by the disc diffusion method. The microorganisms used for the test are: *Staphylococcus aureus* and *Escherichia coli*. Subculture of the bacteria is done in petri dishes containing Mueller Hinton Agar medium. Different concentration of the Green tea aqueous extract were prepared at a strength of 50 and 100 µg/ml and varying standard concentrations of azithromycin and ciprofloxacin were prepared at strength of 50 and 100 µg/ml. Disc were prepared and dipped in the various concentration of test and standard solution and were placed on the petri dishes containing bacteria culture and allowed for incubation at 37°C at BOD Incubator.

The zone of inhibition of bacteria were marked with marker and measured with a scale.

4. Report (Comparative Zone of Inhibition analysis):

Microorganism tested	**Azithromycin**	**Ciprofloxacin**	**Green tea extract**	
	30 µg/ml	**30 µg/ml**	**50 µg/ml**	**100 µg/ml**
S. Aureus	31	23	28	27
E. Coli	16	16	25	22

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