



**TechRate**

AUDIT COMPANY

# BankerDoge

## Smart Contract Security Audit

TechRate

September, 2021

# Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

**DISCLAIMER:** By reading this report or any part of it, you agree to the terms of this disclaimer. If you do not agree to the terms, then please immediately cease reading this report, and delete and destroy any and all copies of this report downloaded and/or printed by you. This report is provided for information purposes only and on a non-reliance basis, and does not constitute investment advice. No one shall have any right to rely on the report or its contents, and TechRate and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers and other representatives) (TechRate) owe no duty of care towards you or any other person, nor does TechRate make any warranty or representation to any person on the accuracy or completeness of the report. The report is provided "as is", without any conditions, warranties or other terms of any kind except as set out in this disclaimer, and TechRate hereby excludes all representations, warranties, conditions and other terms (including, without limitation, the warranties implied by law of satisfactory quality, fitness for purpose and the use of reasonable care and skill) which, but for this clause, might have effect in relation to the report. Except and only to the extent that it is prohibited by law, TechRate hereby excludes all liability and responsibility, and neither you nor any other person shall have any claim against TechRate, for any amount or kind of loss or damage that may result to you or any other person (including without limitation, any direct, indirect, special, punitive, consequential or pure economic loss or damages, or any loss of income, profits, goodwill, data, contracts, use of money, or business interruption, and whether in delict, tort (including without limitation negligence), contract, breach of statutory duty, misrepresentation (whether innocent or negligent) or otherwise under any claim of any nature whatsoever in any jurisdiction) in any way arising from or connected with this report and the use, inability to use or the results of use of this report, and any reliance on this report.

The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

# Background

TechRate was commissioned by BankerDoge to perform an audit of smart contracts:

<https://bscscan.com/address/0xf06419C638a1d809C024Aa693147dBDC42B60145#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

# Issues Checking Status

| Issue description  | Checking status |
|--|-----------------|
| 1. Compiler errors.  | Passed          |
| 2. Race conditions and Reentrancy. Cross-function race conditions. | Passed          |
| 3. Possible delays in data delivery.                               | Passed          |
| 4. Oracle calls.   | Passed          |
| 5. Front running.  | Passed          |
| 6. Timestamp dependence.   | Passed          |
| 7. Integer Overflow and Underflow.                                 | Passed          |
| 8. DoS with Revert.  | Passed          |
| 9. DoS with block gas limit.                                       | Low issues      |
| 10. Methods execution permissions.                                 | Passed          |
| 11. Economy model of the contract.                                 | Passed          |
| 12. The impact of the exchange rate on the logic.                  | Passed          |
| 13. Private user data leaks.                                       | Passed          |
| 14. Malicious Event log.   | Passed          |
| 15. Scoping and Declarations.                                      | Passed          |
| 16. Uninitialized storage pointers.                                | Passed          |
| 17. Arithmetic accuracy.   | Passed          |
| 18. Design Logic.  | Passed          |
| 19. Cross-function race conditions.                                | Passed          |
| 20. Safe Open Zeppelin contracts implementation and usage.         | Passed          |
| 21. Fallback function security.                                    | Passed          |

# Security Issues

## ✓ High Severity Issues

No high severity issues found.

## ✓ Medium Severity Issues

No medium severity issues found.

## ✓ Low Severity Issues

### 1. Out of gas

Issue:

- The function `includeInReward()` uses the loop to find and remove addresses from the `_excluded` list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.
- The function `_getCurrentSupply` also uses the loop for evaluating total supply. It also could be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.
- The function `setBots()` uses the loop to set bot addresses. It also could be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

Recommendation:

Check that the excluded array length is not too big.

## Notes:

- *require(!\_isExcludedFromFee[to] || !\_isExcludedFromFee[from], "trading paused temporarily. ");* will always fail, because it is in *!\_isExcludedFromFee[to] && !\_isExcludedFromFee[from]* block.
- Swapped amount goes to charity, development and marketing addresses.

## Owner privileges (In the period when the owner is not renounced)

- Owner can change router and pair addresses.
- Owner can change liquidity address.
- Owner can exclude from the fee.
- Owner can set and delete bots.
- Owner can change buyback divisor.
- Owner can change `_buyBackRangeRate`.
- Owner can change `_intervalMinutesForSwap`.
- Owner can change tax, liquidity and vault fee.
- Owner can change buy and sell fees.
- Owner can change `buyBackSellLimit`.
- Owner can change `_bMaxTxAmount` and `_sMaxTxAmount`.
- Owner can change `_trigger` amount.
- Owner can change marketing, development and charity divisor.
- Owner can change minimum number of tokens to add to liquidity.
- Owner can change marketing, development, vault and charity addresses.
- Owner can enable/disable `_abmode`.
- Owner can enable/disable `_cooldownMode`.
- Owner can enable/disable `buyBack`.
- Owner can enable before and after presale modes.
- Owner can enable/disable trading.
- Owner can Uniswap router address.
- Owner can withdraw ERC20 tokens except this.
- Owner can manually swap and liquify.
- Owner can withdraw BNBs.
- Owner can change address fees.

# Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

**Liquidity locking details NOT provided by the team.**

---

## *TechRate note:*

*Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.*