


# SMART CONTRACT SECURITY AUDIT


Final report

Plan: Simple

## Bicycle MoVe

July 2022

 rugdog.net

 the@rugdog.net



## CONTENTS

|                             |   |
|-----------------------------|---|
| 1. Introduction             | 3 |
| 2. Contracts checked        | 3 |
| 3. Audit Process            | 3 |
| 4. Attacks checked          | 4 |
| 5. Classification of issues | 5 |
| 6. Issues                   | 6 |
| 6.1 High severity issues    | 6 |
| 6.2 Medium severity issues  | 6 |
| 6.3 Low severity issues     | 6 |
| 7. Conclusion               | 7 |
| 8. Disclaimer               | 8 |
| 9. Static Analysis          | 9 |

## ◆ INTRODUCTION

A fungible token of ERC20 standard with antibot functionality.

|            |                         |
|------------|-------------------------|
| Name       | Bicycle MoVe            |
| Audit date | 2022-07-01 - 2022-07-01 |
| Language   | Solidity                |
| Network    | Binance Smart Chain     |

## ◆ CONTRACTS CHECKED

|                      |  |
|----------------------|--|
| Name                 | Address                                    |
| AntiBotStandardToken | 0x044b05c24cb680619b0a38338cb85399335f1155 |

## ◆ AUDIT PROCESS

The code was audited by the team according to the following order:

### Automated analysis

- ◆ Scanning the project's smart contracts with several publicly available automated Solidity analysis tools
- ◆ Manual confirmation of all the issues found by the tools

### Manual audit

- ◆ Thorough manual analysis of smart contracts for security vulnerabilities
- ◆ Smart contracts' logic check

## ATTACKS CHECKED

| Title  | Check result |
|--|--------------|
| Unencrypted Private Data On-Chain                | ✓ passed     |
| Code With No Effects                             | ✓ passed     |
| Message call with hardcoded gas amount           | ✓ passed     |
| Typographical Error                              | ✓ passed     |
| DoS With Block Gas Limit                         | ✓ passed     |
| Presence of unused variables                     | ✓ passed     |
| Incorrect Inheritance Order                      | ✓ passed     |
| Requirement Violation                            | ✓ passed     |
| Weak Sources of Randomness from Chain Attributes | ✓ passed     |
| Shadowing State Variables                        | ✓ passed     |
| Incorrect Constructor Name                       | ✓ passed     |
| Block values as a proxy for time                 | ✓ passed     |
| Authorization through tx.origin                  | ✓ passed     |
| DoS with Failed Call                             | ✓ passed     |
| Delegatecall to Untrusted Callee                 | ✓ passed     |

|                                      |          |
|--------------------------------------|----------|
| Use of Deprecated Solidity Functions | ✓ passed |
| Assert Violation                     | ✓ passed |
| State Variable Default Visibility    | ✓ passed |
| Reentrancy                           | ✓ passed |
| Unprotected SELFDESTRUCT Instruction | ✓ passed |
| Unprotected Ether Withdrawal         | ✓ passed |
| Unchecked Call Return Value          | ✓ passed |
| Floating Pragma                      | ✓ passed |
| Outdated Compiler Version            | ✓ passed |
| Integer Overflow and Underflow       | ✓ passed |
| Function Default Visibility          | ✓ passed |

## CLASSIFICATION OF ISSUES

|                        |  |
|------------------------|--|
| <b>High severity</b>   | Issues leading to assets theft, locking or any other loss of assets or leading to contract malfunctioning.                                 |
| <b>Medium severity</b> | Issues that can trigger a contract failure of malfunctioning.  |
| <b>Low severity</b>    | Issues that do now affect contract functionality. For example, unoptimised gas usage, outdated or unused code, code style violations, etc. |



## ❖ ISSUES

### High severity issues

No issues were found

### Medium severity issues

No issues were found

### Low severity issues

#### 1. Antibot may block transfers (AntiBotStandardToken)

The contract calls an external contract for antibot protection. The antibot contract is deployed via proxy and it's coe can be changed. The antibot may potentially block transfers.

```
function _transfer(
    address sender,
    address recipient,
    uint256 amount
) internal virtual {
    ...

    if (enableAntiBot) {
        pinkAntiBot.onPreTransferCheck(sender, recipient, amount);
    }
    ...
}
```

## ◆ CONCLUSION

Bicycle MoVe AntiBotStandardToken contract was audited. 1 low severity issue was found.

## **DISCLAIMER**

This report is subject to the terms and conditions (including without limitation, description of services, confidentiality, disclaimer and limitation of liability) set forth in the Services Agreement, or the scope of services, and terms and conditions provided to the Company in connection with the Agreement. This report provided in connection with the Services set forth in the Agreement shall be used by the Company only to the extent permitted under the terms and conditions set forth in the Agreement. This report may not be transmitted, disclosed, referred to or relied upon by any person for any purposes without RugDog prior written consent.

This report is not, nor should be considered, an "endorsement" or "disapproval" of any particular project or team. This report is not, nor should be considered, an indication of the economics or value of any "product" or "asset" created by any team or project that contracts RugDog to perform a security assessment. This report does not provide any warranty or guarantee regarding the absolute bug-free nature of the technology analyzed, nor do they provide any indication of the technologies proprietors, business, business model or legal compliance.

This report should not be used in any way to make decisions around investment or involvement with any particular project. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.



## STATIC ANALYSIS

INFO:Detectors:

AntiBotStandardToken.allowance(address,address).owner (Bicycle MoVe.sol#590)

shadows:

- Ownable.owner() (Bicycle MoVe.sol#150-152) (function)

AntiBotStandardToken.\_approve(address,address,uint256).owner (Bicycle MoVe.sol#795)

shadows:

- Ownable.owner() (Bicycle MoVe.sol#150-152) (function)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing>

INFO:Detectors:

AntiBotStandardToken.constructor(string,string,uint8,uint256,address,address,uint256).serviceFeeReceiver\_ (Bicycle MoVe.sol#491) lacks a zero-check on :

- address(serviceFeeReceiver\_).transfer(serviceFee\_) (Bicycle MoVe.sol#510)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation>

INFO:Detectors:

Reentrancy in AntiBotStandardToken.\_transfer(address,address,uint256) (Bicycle MoVe.sol#716-736):

External calls:

- pinkAntiBot.onPreTransferCheck(sender,recipient,amount) (Bicycle MoVe.sol#725)

State variables written after the call(s):

- \_balances[sender] = \_balances[sender].sub(amount,ERC20: transfer amount exceeds balance) (Bicycle MoVe.sol#730-733)

- \_balances[recipient] = \_balances[recipient].add(amount) (Bicycle MoVe.sol#734)

Reentrancy in AntiBotStandardToken.constructor(string,string,uint8,uint256,address,address,uint256) (Bicycle MoVe.sol#485-511):

External calls:

- pinkAntiBot.setTokenOwner(owner()) (Bicycle MoVe.sol#500)

State variables written after the call(s):

- enableAntiBot = true (Bicycle MoVe.sol#501)

Reentrancy in AntiBotStandardToken.transferFrom(address,address,uint256) (Bicycle MoVe.sol#630-645):

External calls:

- \_transfer(sender,recipient,amount) (Bicycle MoVe.sol#635)
- pinkAntiBot.onPreTransferCheck(sender,recipient,amount) (Bicycle MoVe.sol#725)

State variables written after the call(s):

- \_approve(sender,\_msgSender(),\_allowances[sender][\_msgSender()].sub(amount,ERC20: transfer amount exceeds allowance)) (Bicycle MoVe.sol#636-643)
- \_allowances[owner][spender] = amount (Bicycle MoVe.sol#802)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2>

INFO:Detectors:

Reentrancy in AntiBotStandardToken.\_transfer(address,address,uint256) (Bicycle MoVe.sol#716-736):

External calls:

- pinkAntiBot.onPreTransferCheck(sender,recipient,amount) (Bicycle MoVe.sol#725)

Event emitted after the call(s):

- Transfer(sender,recipient,amount) (Bicycle MoVe.sol#735)

Reentrancy in AntiBotStandardToken.constructor(string,string,uint8,uint256,address,address,uint256) (Bicycle MoVe.sol#485-511):

External calls:

- pinkAntiBot.setTokenOwner(owner()) (Bicycle MoVe.sol#500)

Event emitted after the call(s):

- TokenCreated(owner(),address(this),TokenType.antiBotStandard,VERSION) (Bicycle MoVe.sol#503-508)

Reentrancy in AntiBotStandardToken.transferFrom(address,address,uint256) (Bicycle MoVe.sol#630-645):

External calls:

- \_transfer(sender,recipient,amount) (Bicycle MoVe.sol#635)
- pinkAntiBot.onPreTransferCheck(sender,recipient,amount) (Bicycle MoVe.sol#725)

Event emitted after the call(s):

- Approval(owner,spender,amount) (Bicycle MoVe.sol#803)
- \_approve(sender,\_msgSender(),\_allowances[sender]

[\_msgSender()].sub(amount,ERC20: transfer amount exceeds allowance)) (Bicycle MoVe.sol#636-643)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3>

INFO:Detectors:

AntiBotStandardToken.\_burn(address,uint256) (Bicycle MoVe.sol#768-779) is never used and should be removed

AntiBotStandardToken.\_setupDecimals(uint8) (Bicycle MoVe.sol#813-815) is never used and should be removed

Context.\_msgData() (Bicycle MoVe.sol#110-112) is never used and should be removed

SafeMath.div(uint256,uint256) (Bicycle MoVe.sol#324-326) is never used and should be removed

SafeMath.div(uint256,uint256,string) (Bicycle MoVe.sol#380-389) is never used and should be removed

SafeMath.mod(uint256,uint256) (Bicycle MoVe.sol#340-342) is never used and should be removed

SafeMath.mod(uint256,uint256,string) (Bicycle MoVe.sol#406-415) is never used and should be removed

SafeMath.mul(uint256,uint256) (Bicycle MoVe.sol#310-312) is never used and should be removed

SafeMath.sub(uint256,uint256) (Bicycle MoVe.sol#296-298) is never used and should be removed

SafeMath.tryAdd(uint256,uint256) (Bicycle MoVe.sol#211-217) is never used and should be removed

SafeMath.tryDiv(uint256,uint256) (Bicycle MoVe.sol#253-258) is never used and should be removed

SafeMath.tryMod(uint256,uint256) (Bicycle MoVe.sol#265-270) is never used and should be removed

SafeMath.tryMul(uint256,uint256) (Bicycle MoVe.sol#236-246) is never used and should be removed

SafeMath.trySub(uint256,uint256) (Bicycle MoVe.sol#224-229) is never used and should be removed

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code>

INFO:Detectors:

Pragma version=0.8.4 (Bicycle MoVe.sol#461) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6

solc-0.8.4 is not recommended for deployment

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity>

INFO:Detectors:

Parameter AntiBotStandardToken.setEnableAntiBot(bool).\_enable (Bicycle MoVe.sol#513) is not in mixedCase

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions>

INFO:Detectors:

Variable AntiBotStandardToken.\_totalSupply (Bicycle MoVe.sol#480) is too similar to AntiBotStandardToken.constructor(string,string,uint8,uint256,address,address,uint256).totalSupply\_ (Bicycle MoVe.sol#489)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-are-too-similar>

INFO:Detectors:

renounceOwnership() should be declared external:

- Ownable.renounceOwnership() (Bicycle MoVe.sol#169-171)

transferOwnership(address) should be declared external:

- Ownable.transferOwnership(address) (Bicycle MoVe.sol#177-180)

name() should be declared external:

- AntiBotStandardToken.name() (Bicycle MoVe.sol#520-522)

symbol() should be declared external:

- AntiBotStandardToken.symbol() (Bicycle MoVe.sol#528-530)

decimals() should be declared external:

- AntiBotStandardToken.decimals() (Bicycle MoVe.sol#545-547)

totalSupply() should be declared external:

- AntiBotStandardToken.totalSupply() (Bicycle MoVe.sol#552-554)

balanceOf(address) should be declared external:

- AntiBotStandardToken.balanceOf(address) (Bicycle MoVe.sol#559-567)

transfer(address,uint256) should be declared external:

- AntiBotStandardToken.transfer(address,uint256) (Bicycle MoVe.sol#577-585)

allowance(address,address) should be declared external:

- AntiBotStandardToken.allowance(address,address) (Bicycle MoVe.sol#590-598)

approve(address,uint256) should be declared external:

- AntiBotStandardToken.approve(address,uint256) (Bicycle MoVe.sol#607-615)

transferFrom(address,address,uint256) should be declared external:

- AntiBotStandardToken.transferFrom(address,address,uint256) (Bicycle MoVe.sol#630-645)

increaseAllowance(address,uint256) should be declared external:

- AntiBotStandardToken.increaseAllowance(address,uint256) (Bicycle MoVe.sol#659-670)

decreaseAllowance(address,uint256) should be declared external:

- AntiBotStandardToken.decreaseAllowance(address,uint256) (Bicycle MoVe.sol#686-700)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#public->

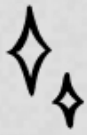
```
function-that-could-be-declared-external
```

```
INFO:Slither:Bicycle MoVe.sol analyzed (7 contracts with 75 detectors), 40 result(s)  
found
```


```
INFO:Slither:Use https://crytic.io/ to get access to additional detectors and Github  
integration
```


```
    Bicycle MoVe
```





# WOOF!

 [rugdog.net](https://rugdog.net)

 [the@rugdog.net](mailto:the@rugdog.net)

