



**TechRate**  
AUDIT COMPANY

# Smart Contract Security Audit

# Audit Details



Audited project

**Roronoa Zoro Inu**



Deployer address

**0x6873cf0cbf7ef723c060d43288eecbdeb9bebc2f**



Client contacts:

**Roronoa Zoro Inu team**



Blockchain

**Binance Smart Chain**



Project website:

**<https://www.roronoazoroinu.com/>**

# 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.

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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 Roronoa Zoro Inu to perform an audit of smart contracts:

<https://bscscan.com/address/0xd8b1d0732fd47550cd81fb86d919dc1e49ed28a1#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.

# Contracts Details

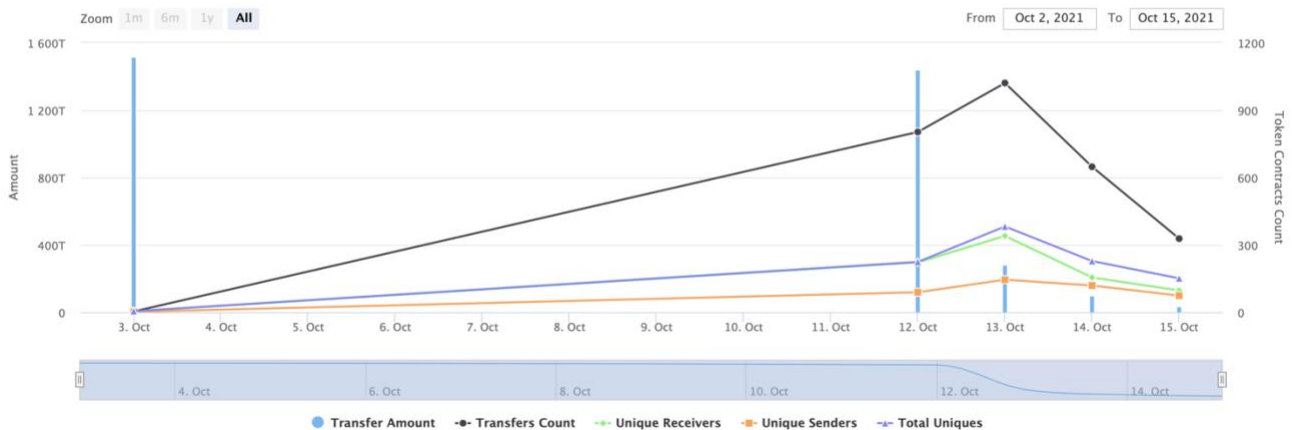
## Token contract details for 17.10.2021

Contract name	Roronoa Zoro Inu
Contract address	0xd8b1d0732FD47550CD81fb86d919dc1E49ed28a1
Total supply	1,000,000,000,000,000
Token ticker	RORONOAZORO
Decimals	9
Token holders	578
Transactions count	2,986
Top 100 holders dominance	95.34%
Liquidity fee	12
Tax fee	3
Total fees	46638878992979548101469
Uniswap V2 pair	0x33d3d0c610bfc2ce84e150a5736e4087fb278c90
Contract deployer address	0x6873cf0cbf7ef723c060d43288eecbdeb9bebc2f
Contract's current owner address	0x6873cf0cbf7ef723c060d43288eecbdeb9bebc2f

💡 Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 578



(A total of 953,383,528,118,809.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

Sun 3, Oct 2021 - Fri 15, Oct 2021





# Roronoa Zoro Inu Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Burn Address	447,763,935,768,447.025290186	44.7764%
2	 0xd8b1d0732fd47550cd81fb86d919dc1e49ed28a1	67,917,525,340,582.919473542	6.7918%
3	0x75a43158a638273c7635186ceb13516506e3c719	50,000,000,000,000	5.0000%
4	0x9b6d3761f0433bfd646857ea302e2d677302eee	50,000,000,000,000	5.0000%
5	 PancakeSwap V2: RORONOA ZORO	36,061,423,764,861.234015221	3.6061%
6	0x2b0809eddb377fafc8d78cf2071f9dba346d0b7a	24,552,498,882,532.668612326	2.4552%
7	0x04cc80866d5d97e3f0b9cf0c8bdea35ba0c55ee	22,802,391,744,712.744108449	2.2802%
8	0x318c373e9dc2cbd1161e6b85e7a7735688160877	16,569,631,897,641.464739052	1.6570%
9	0x810853430ae0d247ee80e3545621bdd0b829cc46	16,465,719,430,709.729548421	1.6466%
10	0xbb0ca21dcba048283d1e617831dac8c9ef10047	14,667,868,524,827.238861372	1.4668%



# Contract functions details

## + Context

- [Int] \_msgSender
- [Int] \_msgData

## + [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

## + [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

## + [Lib] Address

- [Int] isContract
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Prv] \_functionCallWithValue #

## + Ownable (Context)

- [Pub] <Constructor> #
- [Pub] owner
- [Pub] renounceOwnership #
  - modifiers: onlyOwner
- [Pub] transferOwnership #
  - modifiers: onlyOwner
- [Pub] getUnlockTime
- [Pub] getTime
- [Pub] lock #
  - modifiers: onlyOwner
- [Pub] unlock #

## + [Int] IUniswapV2Factory

- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs
- [Ext] allPairsLength
- [Ext] createPair #



- [Ext] setFeeTo #
- [Ext] setFeeToSetter #

+ [Int] IUniswapV2Pair

- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom #
- [Ext] DOMAIN\_SEPARATOR
- [Ext] PERMIT\_TYPEHASH
- [Ext] nonces
- [Ext] permit #
- [Ext] MINIMUM\_LIQUIDITY
- [Ext] factory
- [Ext] token0
- [Ext] token1
- [Ext] getReserves
- [Ext] price0CumulativeLast
- [Ext] price1CumulativeLast
- [Ext] kLast
- [Ext] burn #
- [Ext] swap #
- [Ext] skim #
- [Ext] sync #
- [Ext] initialize #

+ [Int] IUniswapV2Router01

- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidity #
- [Ext] addLiquidityETH (\$)
- [Ext] removeLiquidity #
- [Ext] removeLiquidityETH #
- [Ext] removeLiquidityWithPermit #
- [Ext] removeLiquidityETHWithPermit #
- [Ext] swapExactTokensForTokens #
- [Ext] swapTokensForExactTokens #
- [Ext] swapExactETHForTokens (\$)
- [Ext] swapTokensForExactETH #
- [Ext] swapExactTokensForETH #
- [Ext] swapETHForExactTokens (\$)
- [Ext] quote
- [Ext] getAmountOut
- [Ext] getAmountIn
- [Ext] getAmountsOut
- [Ext] getAmountsIn

+ [Int] IUniswapV2Router02 (IUniswapV2Router01)

- [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
- [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #

- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
- [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
- + ZoroInu (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] isExcludedFromReward
  - [Pub] totalFees
  - [Pub] minimumTokensBeforeSwapAmount
  - [Pub] buyBackUpperLimitAmount
  - [Pub] deliver #
  - [Pub] reflectionFromToken
  - [Pub] tokenFromReflection
  - [Pub] excludeFromReward #
    - modifiers: onlyOwner
  - [Ext] includeInReward #
    - modifiers: onlyOwner
  - [Prv] \_approve #
  - [Prv] \_transfer #
  - [Ext] CommunityShot #
    - modifiers: onlyOwner
  - [Prv] swapTokens #
    - modifiers: lockTheSwap
  - [Prv] buyBackTokens #
    - modifiers: lockTheSwap
  - [Prv] swapTokensForEth #
  - [Prv] swapETHForTokens #
  - [Prv] addLiquidity #
  - [Prv] \_tokenTransfer #
  - [Prv] \_transferStandard #
  - [Prv] \_transferToExcluded #
  - [Prv] \_transferFromExcluded #
  - [Prv] \_transferBothExcluded #
  - [Prv] \_reflectFee #
  - [Prv] \_getValues
  - [Prv] \_getTValues
  - [Prv] \_getRValues
  - [Prv] \_getRate
  - [Prv] \_getCurrentSupply
  - [Prv] \_takeLiquidity #
  - [Prv] calculateTaxFee
  - [Prv] calculateLiquidityFee
  - [Prv] removeAllFee #
  - [Prv] restoreAllFee #

- [Pub] isExcludedFromFee
- [Pub] excludeFromFee #
  - modifiers: onlyOwner
- [Pub] includeInFee #
  - modifiers: onlyOwner
- [Ext] setTaxFeePercent #
  - modifiers: onlyOwner
- [Ext] setLiquidityFeePercent #
  - modifiers: onlyOwner
- [Ext] setMaxTxAmount #
  - modifiers: onlyOwner
- [Ext] setMarketingCommunityDivisor #
  - modifiers: onlyOwner
- [Ext] setNumTokensSellToAddToLiquidity #
  - modifiers: onlyOwner
- [Ext] setBuybackUpperLimit #
  - modifiers: onlyOwner
- [Ext] setMarketingAddress #
  - modifiers: onlyOwner
- [Ext] setCommunityAddress #
  - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
- [Pub] setBuyBackEnabled #
  - modifiers: onlyOwner
- [Ext] prepareForPreSale #
  - modifiers: onlyOwner
- [Ext] afterPreSale #
  - modifiers: onlyOwner
- [Prv] transferToAddressETH #
- [Ext] <Fallback> (\$)

(\$)= payable function

# = non-constant function

# 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.

```
function includeInReward(address account) external onlyOwner() {
    require(!_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- 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.

```
function _getCurrentSupply() private view returns (uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (
            _rOwned[_excluded[i]] > rSupply ||
            _tOwned[_excluded[i]] > tSupply
        ) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big.

## Notes:

- addLiquidity function is not used.

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

- Owner can change tax and liquidity fees.

```
ftrace | funcSig
function setTaxFeePercent(uint256 taxFee↑) external onlyOwner() {
    _taxFee = taxFee↑;
}

ftrace | funcSig
function setLiquidityFeePercent(uint256 liquidityFee↑) external onlyOwner() {
    _liquidityFee = liquidityFee↑;
}
```

- Owner can change maximum transaction amount.

```
ftrace | funcSig
function setMaxTxAmount(uint256 maxTxAmount↑) external onlyOwner() {
    _maxTxAmount = maxTxAmount↑;
}
```

- Owner can exclude from the fee.

```
function excludeFromFee(address account↑) public onlyOwner {
    _isExcludedFromFee[account↑] = true;
}
```

- Owner can change marketingcommunityDivisor.

```
function setMarketingCommunityDivisor(uint256 divisor↑) external onlyOwner() {
    marketingcommunityDivisor = divisor↑;
}
```

- Owner can change minimum number of tokens to add to liquidity.

```
ftrace | funcSig
function setNumTokensSellToAddToLiquidity(uint256 _minimumTokensBeforeSwap↑) external onlyOwner() {
    minimumTokensBeforeSwap = _minimumTokensBeforeSwap↑;
}
```



- Owner can change buyBackUpperLimit.

```
ftrace | funcSig
function setBuybackUpperLimit(uint256 buyBackLimit↑) external onlyOwner() {
    buyBackUpperLimit = buyBackLimit↑ * 10**18;
}
```

- Owner can manually buyback token amount.

```
function CommunityShot(uint256 amount↑) external onlyOwner(){

    buyBackTokens(amount↑ * 10**15); // i.e. "1" would equal 0.001 BNB
}
```

- Owner can change marketing address.

```
ftrace | funcSig
function setMarketingAddress(address _marketingAddress↑) external onlyOwner() {
    marketingAddress = payable(_marketingAddress↑);
}
```

- Owner can change community address.

```
function setCommunityAddress(address _communityAddress↑) external onlyOwner() {
    communityAddress = payable(_communityAddress↑);
}
```

- Owner can enable and disable buyBack.

```
ftrace | funcSig
function setBuyBackEnabled(bool _enabled↑) public onlyOwner {
    buyBackEnabled = _enabled↑;
    emit BuyBackEnabledUpdated(_enabled↑);
}
```

- Owner can enable before and after presale modes.

```
function prepareForPreSale() external onlyOwner {
    setSwapAndLiquifyEnabled(false);
    _taxFee = 0;
    _liquidityFee = 0;
    _maxTxAmount = 1000000000 * 10**6 * 10**9;
}

ftrace | funcSig
function afterPreSale() external onlyOwner {
    setSwapAndLiquifyEnabled(true);
    _taxFee = 2;
    _liquidityFee = 9;
    _maxTxAmount = 10000000 * 10**6 * 10**9;
}
```

- Owner can lock and unlock. By the way, using these functions the owner could retake privileges even after the ownership was renounced.

```
function lock(uint256 time↑) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = block.timestamp + time↑;
    emit OwnershipTransferred(_owner, address(0));
}

function unlock() public virtual {
    require(_previousOwner == msg.sender, "You don't have permission to unlock");
    require(block.timestamp > _lockTime, "Contract is locked until 7 days");
    emit OwnershipTransferred(_owner, _previousOwner);
    _owner = _previousOwner;
}
```

# Conclusion

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

Liquidity locking details provided by the team:

<https://mudra.website/?certificate=yes&type=0&lp=0x33d3d0c610bfc2ce84e150a5736e4087fb278c90>

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## *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.*