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Changes of Free Amino Acid Content in Skeletal Muscle and Serum of Dragon Dance and Lion Dance

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Abstract: Dragon dance and lion dance is a special traditional sports activity with a long history of the Chinese nation. It appears in front of the world as a formal sports event, whether it is to spread the state of the country's physical fitness, or to improve the level of sports competitions, it has important significance in teaching and teaching effects, research and national culture. China's revitalization and diplomacy has achieved unprecedented growth. This article aims to study the effects of dragon and lion dances on skeletal muscle and serum free amino acid content. In this paper, a fluorescence spectroscopy method for amino acid quantification is established and compared with other experimental methods to provide a reference for the determination of other amino acids. The three amino acids were successfully analyzed by fluorescence spectroscopy, and the reaction mechanism was briefly discussed. The experimental results in this article show that, under normal circumstances, the dragon dance and lion dance exercise damage will reduce the content of skeletal muscle by about 5%, but it will promote the content of serum free amino acids, which will increase it by more than 10%.

1. Introduction

In the past ten years, China's competitive dragon-lion sport has developed rapidly. The domestic competition system has been perfected, and the international competition system has begun to take shape. China has cultivated a group of dragon and lion dances with a high level of sports skills and some teams from colleges and universities. After systematic training, the Dragon and Lions team has achieved good results in various competitions many times. Establish a team of professional coaches with theory and skills. In terms of teaching and scientific research, the traditional dragon-lion movement is infiltrating schools. Quite a few colleges and universities, cities, and middle schools in some regions have included the Lion and Dragon Movement in their school plans. Training. Millions of elementary and middle school students and tens of thousands of college students have exchanged and participated in the dragon and lion movement, making dragon and lion

dance a separate project of physical education in schools at all levels, and an important content of morality and spirituality. School sports, aesthetic education, ideology and morality And traditional education.

Various movements of the human body are completed with the participation of skeletal muscles, and the human body consumes energy materials during exercise. Therefore, exercise capacity is closely related to the energy metabolism of skeletal muscle. To study the changes of AMP/ATP ratio and AMPK activity under exercise-induced fatigue and the relationship between the two, and study how mTORC1 and mTORC2 interact to mediate energy balance and affect downstream signaling molecules. It helps to reveal the mechanism of energy metabolism in skeletal muscle exercise at the molecular level.

Zhang Q studied the effects of REDD1 loss on skeletal muscle mass, protein synthesis, proteolysis and mTORC1 signaling pathway under basal conditions and after glucocorticoid administration, and on several catabolic stresses (such as hypoxia and glucocorticoids) The response will be greatly improved. However, the function of REDD1 seems to be tissue and pressure dependent, and its role in skeletal muscle in vivo has not been well characterized [1]. Celik M studied the plasma free amino acid levels in serum samples collected from the patient group and the healthy control group, determined the plasma free amino acid profile of patients with nasal polyposis, and compared the results with the healthy control group. However, due to the instability of the sample, the result is not very accurate [2]. Cheng R studied the gas-solid decarburization of 2 mm iron plates in weak oxidizing atmospheres of 1293, 1353 and 1413 K. His purpose is to study the mechanism of average carbon content change, considering the effects of decarburization time and temperature, and at the same time increase Temperature and time can enhance decarburization ability. But this method is not particularly affordable, and the actual cost is too high [3].

The innovation of this article is to accelerate the cultivation and development of the sports dragon and lion market. Change concepts and actively strengthen contacts and cooperation with all social strata, make full use of the dragon-lion movement, culture, and spiritual qualities, combine policy and economy, develop the combination of dragon-lion movement and local culture, tourism, economic development and spiritual culture Construction. Combine organically, create a trademark for dragon and lion sports activities, create an industrial development model with dragon and lion as the main body of competition, and support the development and use of intangible assets and related assets to support and relative industrial development performance and activities. Do everything possible to explore the value of the intangible assets of the dragon and lion dance, and standardize the protection methods of related assets, with the goal of promoting the commercialization and industrialization of the dragon and lion dance.

2. Detection Method of Free Amino Acid Content in Skeletal Muscle and Serum

2.1. Determination Method of Serum Free Amino Acid Content

(1) HPLC

Liquid chromatography is mainly composed of two parts: direct liquid chromatography and reversed-phase liquid chromatography. Reversed-phase liquid chromatography is widely recognized because of its high sensitivity, fast detection speed, and many derivatives. This method uses OPA, DNFB, dichloroethane, etc. as raw materials. They are used as a derivative producer, the related C8 or C18 silica gel is used as a fixative, and phosphoric acid or acetic acid is usually used as the mobile phase. The 23 kinds of free amino acids in Cordyceps Oral Liquid were separated and identified by C18 reversed-phase chromatographic column. VerviTM C18 chromatographic column and 1.5% acetone triphosphate solution were used as mobile phase for elution, and 17 kinds of free amino acids by weight were successfully identified Of Ejiao amino acids. Recently, they have also

studied liquid chromatography and visible nitrogen absorption. The combined technology has high analytical sensitivity. Due to its advantages, this method can be used in several aspects of serum-free amino acid determination [4].

(2) Ion exchange chromatography

Because amino acids can be separated to form cations in an acidic environment, different amino acids can be separated with cationic resins, because the formed cations can easily react with nitrides or similar derivatives to form new substances, which will have characteristics at different wavelengths Absorption reaction. Based on this principle, UV detectors can be used to detect different amino acids. This method has higher requirements for derivatives, and nitrite is easy to react with primary amino acids. Therefore, the experimental reproducibility of this method is poor, which limits the popularity of this method to a certain extent. Embedded pulse bipolar detection anti-particle chromatography is a relatively advanced method for amino acid determination. This method does not require derivatives to quantify different amino acids.

(3) CE

Capillary electrophoresis is a new type of separation method developed after liquid chromatography. This method has the advantages of fast analysis speed, high separation efficiency, and less sample consumption. Using this method can successfully isolate and analyze 8 kinds of amino acids in oysters. This method can also be combined with other identification techniques to achieve more accurate and effective purposes. The determination of some specific amino acids may be interfered by other amino acids or coexisting ions, because amino acids have the function of diversity and structural similarity. Therefore, the determination of amino acids is still at a relatively preliminary stage and is different. Each method has its own advantages and disadvantages. Therefore, before analyzing the sample solution, you should be familiar with its composition and try to find the best detection method for determination.

2.2. Skeletal Muscle Automatic Tracking Algorithm

First, the received 25-second video images are uniformly cut into 200 continuous static B-mode images. Then export the region of interest from the received ultrasound image, i, e. Image restoration, delete some interference information, such as personal data, and only retain the image information we need. Then use the gray scale transformation function and denoising to edit this part of the image. Once the grayscale image is converted to a preprocessed image, the image contrast will be adjusted to facilitate further tracking. Finally, a clear horizontal static ultrasound image was taken on the gray scale of human skeletal muscle. These images show the muscle structure from the epidermis to the femur from top to bottom.

Second, you need to manually select the monitoring window in the first frame. In each frame of images taken subsequently, the positive samples close to the current target position and the negative samples far away from the center of the monitoring target are collected to notify the classifier. In order to determine the location of the target in the next frame, some samples will be collected near the current target location, and the largest classification criterion is used to determine the expected location frame of the next target location.

The first step is to select images that meet the conditions as samples, and the conditions are as follows:

$$D^{y} = \{z \,|||\, I(z) - I_{t-1} \,||| < y\} \tag{1}$$

The tracking position at time t-1 is represented by I_{t-1}, and then the characteristics are extracted through non-adaptive theory and compressed sensing.

In the second step, for each sample $z \in R^{m}$, its low-dimensionality can be expressed as follows:

$$v = (v_1, v_2, ..., v_n)^T \in R^n \tag{2}$$

And need to meet $m > n$. Assuming that all elements in the vector are independent of each other, when:

$$p(y = 1) = p(y = 0) \tag{3}$$

Using the naive Bayes classifier to classify each feature vector:

$$H(v) = \log\left(\frac{\prod_{i=1}^{n} p(v_i \mid y = 1) p(y = 0)}{\prod_{i=1}^{n} p(v_i \mid y = 0) p(y = 0)}\right) = \sum_{i=1}^{n} \log\left(\frac{v_i \mid y = 1}{v_i \mid y = 0}\right) \tag{4}$$

$y = \{0,1\}$ represents a binary random variable, H(v) is a classifier, and its conditional probability $p(v \mid y_i = 0)$ is set to a normal distribution, then:

$$p(v \mid y_i = 0) \sim N((u_i^1, v_i^1, u_i^0, v_i^1 v_i^0) \tag{5}$$

After the formula is calculated, the tracking position can be obtained according to the maximum classification method.

The third step is to sample 4 series of picture fragments and compare them to obtain 2 better ones, and meet $a < \zeta < b$, the sampling conditions are as follows:

$$D^a = \{z \mid\mid\mid I(z) - I_t \mid\mid < a\}, D^{\zeta,b} = \{z \mid \zeta < \mid\mid I(z) - I_t \mid\mid < b\} \tag{6}$$

The last step is to take out the two images obtained, and update the classifier according to the Haar feature and formula (6):

$$u \leftarrow \lambda u_i^1 + (1-\lambda) u^1, \sigma_i^1 \leftarrow \sqrt{\lambda (\sigma_i^1)^2 + (1-\lambda)(\sigma^1)^2 + \lambda(1-\lambda)(u_i^1 - u^1)^2} \tag{7}$$

This method uses an automatic detection method from coarse to fine. The measurement of skeletal muscle content changes mainly includes two steps: preliminary positioning and precise monitoring of distance. First select three initial monitoring windows to perform non-automatic monitoring of the upper right femur, the lower limit of the right femur, and the thigh, respectively, named areas A, B, and C. For each window, a compressed monitoring algorithm is used, and an appropriate window size is selected to derive a sufficient number of features to achieve a stable monitoring effect. The skeletal muscle at each moment is defined as the maximum vertical distance between windows. It should be noted that window A, window B and window C will be calculated by two different methods, and finally take the center point [5].

2.3. Fluorescence Detection of Amino Acids

Fluorescence spectroscopy is also called fluorescence spectroscopy. Fluorescence photometers can be divided into molecular fluorescence photometers and atomic fluorescence photometers. Molecular fluorescence means that a material molecule absorbs a certain length of photon energy wave due to the existence of a pair of larger photon energy waves, a system or a relatively high rigidity level, which can transform electrons from a ground state to an excited state. In this process, the molecules absorb some energy. Molecules in an excited state are unstable and tend to return to the soil state. In this process, some energy must be lost. This energy manifests itself in the form of light or heat. The light that appears in the form of light is called molecular fluorescence. Atomic fluorescence means that a free individual can absorb the characteristic radiation of different light

sources and electrons in a gas state. The energy layer of the individual can move from the soil state to a higher energy level, and release energy during the transition to the soil state or a lower level. . Light of a certain wavelength is called atomic fluorescence. Both molecular fluorescence and atomic fluorescence emit light. Compared with absorption photometers, fluorescence spectroscopy has higher detection sensitivity. The detection limit is usually one to three degrees lower than that of an absorptiometer, with a wider linear range. Since the produced substance does not absorb specific photons, it will inevitably produce fluorescence. Therefore, this method also has higher measurement selectivity. However, since not all fluorescent substances are emitted, this method is compared with absorption spectroscopy. The range is relatively narrow.

The appearance of fluorescence has a relatively strong relationship with the structure of matter. Substances prone to fluorescence can be roughly divided into three categories: electronic transition type, coupling phenomenon and rigid flat structure. The fluorination strength of the substance is affected by the substitute. Larger electron-withdrawing groups such as carboxyl and carbonyl can significantly reduce the fluorescence intensity of fluorescent substances, while electron-donor groups such as hydroxyl and amino groups help to enhance the fluorescence intensity. Some metal ions with strong electron pulling ability may also extinguish the fluorescence detector. When fluorescence spectroscopy is used for measurement, the diversity of substances also allows more choices.

3. Test of Free Amino Acid Content in Skeletal Muscle and Serum

3.1. Skeletal Muscle Preparation Experiment

Twenty 6-year-old male rats were selected, and they were randomly divided into 4 groups, each with 6 rats. Name them B0, B12, B24 and the control group, and let each group of rats perform a treadmill exhaustion exercise (Treadmill exhaustion exercise refers to the rats performing a first-level load for 20 minutes and a second-level load at a time 20 minutes, three-level load for 20 minutes, until there is no strength, and the criterion for no strength is that the rat is lying on the ground or driving it and still cannot move). For the control group, do not perform any operation on it, and follow the experimental group rats They were sacrificed together, and finally the left skeletal muscle of the rat was taken out and stored in liquid nitrogen to facilitate the detection of the changes in element content in the skeletal muscle [6].

Weigh 3g tissue sample with a precision weigher, cut it into small pieces, then add lysis buffer in a ratio of 1:8, stir in a glass homogenizer in an ice-water bath, and obtain a homogenate at 2500 rpm Centrifuge for 10 minutes and extract the supernatant.

Finally, SPSS17.0 is used to process the experimental data. The data are expressed as mean ± standard deviation. Statistics use One-way ANOVA program for one-way analysis of variance, $P<0.05$, the difference is considered significant.

3.2. Skeletal Muscle Evaluation Parameters

According to the above-mentioned compression tracking algorithm, it is first necessary to select and segment the evaluation parameter indicator of the processed image. The quadriceps of the thigh consists of four parts: straight thigh, mid-thigh, outer thigh and thigh. The main function of the quadriceps of the thigh is to allow the calf and thigh to perform stretching exercises and to bend and stretch the knees to maintain an upright posture. Combining the structural characteristics of the quadriceps, first manually select three tracking windows. Boxes A, B, and C are the superior muscle membrane, inferior muscle membrane, and thigh bone of the rectus thigh muscle. Each window is a separately compressed tracking algorithm to achieve preliminary tracking and alignment. The

thickness of the thigh straight tendon (RFT) is defined as the straight line distance between windows A and B, the thickness of the quadruple tendon (QMT) is defined as the straight line distance between windows A and C, and the thickness of the middle femur (VIT) between window B and The straight-line distance between C.

Finally, compare the tracked rib thickness data with the traditional manual measurement method and the NCC normalized cross-correlation algorithm. Treat the data obtained by traditional manual measurement methods as standard data. The quantitative analysis and comparison of the feasibility and accuracy of the algorithm can be carried out through the collection of the experimental environment.

3.3. Experiment of Making Serum Free Amino Acids

The first step: Add methanol and water to the 1mg/ml Glu and GAGB solution in a ratio of 2 to 1, stir evenly, put in the refrigerator, and adjust the temperature to 4 degrees Celsius. Weigh a certain amount of the cerebral cortex, add 10 times the normal saline into it, and then stir evenly. Add a certain amount of Glu and GABA stock solutions to the above solution to make the concentration of the cerebral cortex solution reach 1, 10, 20, 50, 100ug/g.

The second step: Take out 300ug of brain homogenate containing serum free amino acids, add 300ul of acetonitrile to it, then stir for 6 minutes to combine them, and then centrifuge it at minus 4 degrees Celsius for 20 minutes, and take out the supernatant solution, And transfer it to another test tube, add 1mol/ml sodium carbonate solution and 1% dinitrofluorobenzene into it in turn, each with a capacity of 500ul, and then stir well.

The third step: After performing the previous two steps, put the sample solution in 70 degrees Celsius water to derive for 1 hour, and then perform the liquid phase analysis operation. All the chromatographic analysis of the sample is kept at 30 degrees Celsius. We set the 0.04mol/l sodium acetate buffer as A, and the 1:1 mixture of acetonitrile and water as B, and finally use the gradient elution program Reduce the A solution from 88% to 50%, and the B solution from 66% to 15%, and place them at 340nm wavelength for analysis [7].

4. Analysis of Changes in Skeletal Muscle and Amino Acid Content in Dragon Dance and Lion Dance

4.1. Analysis of the Changes of Element Content in Skeletal Muscle by Dragon Dance and Lion Dance

(1) Changes in the content of MSIN in skeletal muscle

The results showed that the content of M-STN in skeletal muscle and heart tissue of rats during exercise and recovery period was significantly higher than that in the control group and lower than that in the control group, but there was no significant difference at different times during the recovery period. M-STN is the main negative regulator of skeletal muscle growth and development, and has an inhibitory effect on the growth and development of skeletal muscle. Vincent and others examined the application of human skeletal muscle biopsy and found that acute resistance exercise can down-regulate the expression of M-STN-mRNA. As the main regulator of catabolism, MSTN acts on skeletal muscle through the ubiquitous protein pathway and autologous lymphoma system. Excluding M combined with exercise can repair and improve the expression of skeletal muscle protein in muscular dystrophy mice [8]. M-STN is not only expressed in skeletal muscle, it is also present in myocardium. Rats with chronic heart failure have received four weeks of corridor exercise training. After training, the expression of myocardial M-STN protein in the exercise group was 6 times lower than that of the control group, and the expression of gastrocnemius M-STN was

also significantly reduced. Exercise can reduce the occurrence of cardiogenic malignancies by down-regulating the expression of M-STN myocardial infarction. Combined with the results of this study, mstn may play a negative regulatory role in the activation of muscle satellite cells and the repair of skeletal and cardiac muscle.

(2) Changes in the content of TGF-B in skeletal muscle

The results showed that the levels of skeletal muscle and heart TGF-B in rats during exercise and recovery were significantly lower than those in the control group, but there was no significant difference at different times during the recovery period. Regarding the relationship between TGF-B and muscle cell damage and repair, current research mainly focuses on in vitro cell culture experiments. Studies have shown that the effect of TGF-B on skeletal muscle satellite cells is mainly an inhibitory effect. In addition, different concentrations of TGF-B also have different inhibitory effects on satellite skeletal muscle cells, and skeletal muscles get different times after a thorough eccentric exercise. The results showed that within 1 hour, 24 hours and 36 hours after skeletal muscle injury, the expression level of TGF-123mRNA was significantly lower than that of the control group. It is suggested that TGF-123m may be in a suspended state during the repair of skeletal muscle injury [9].

(3) Changes in the content of PDGF in skeletal muscle

Platelet-derived growth factor (PDGF), mainly released by single particles secreted by platelets, has many extremely important roles in embryonic development, cell differentiation, and response to tissue damage. It is one of the growth factors that appear earlier in the wound healing process. Intermediate stem cells can secrete PDGF and promote the migration of stem cells from the heart and aorta to the injured site to treat myocardial injury. Promote blood vessel regeneration after myocardial infarction and improve heart function. In this study, compared with the control group. After exhaustive exercise and during the recovery period, the PDGF concentration of skeletal muscle and myocardium increased significantly, and with time, the PDGF level was higher, which may be related to muscle microfracture and inflammation caused by exhaustive exercise.

The content changes of MSIN, TGF- and PDGF in skeletal muscle are shown in Figure 1:

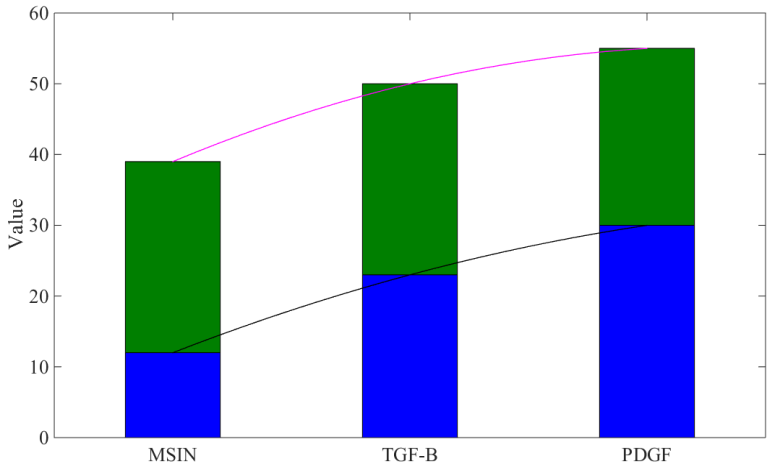

Figure 1. Changes in element content in skeletal muscle

It can be seen intuitively from the figure that the content of MSIN has changed the most, from 12% to 27%, while the content of PDGF has the smallest change, from 29% to 31%, and the content of TGF-B has increased from 23%. % Has increased to 28%. Comprehensive analysis shows that under sports injuries, the content of skeletal muscle has a rising trend.

4.2. Analysis of Changes in Energy Metabolism of Skeletal Muscle Caused by Sports Injuries

The following conclusions can be drawn from Table 1 and Figure 2:

Table 1. Comparison of element content changes in skeletal muscle

Group	D	Pi	P2
Blood sugar(mmol/L)	12.04	4.17	3.43
Serum insulin(uIU/m1)	41.31	30.17	28.85
Muscle glycogen(mg/g)	7.8	5.84	5.35
Skeletal muscle(U/L)	10.53	17.27	18.64

The blood sugar of P1 group was significantly lower than that of D group, which was reduced by 65%, the difference was significant. The blood glucose level of P2 group was significantly lower than that of D group, a decrease of 83%, the difference was significant. There was no difference in blood glucose levels between the P2 group and the P1 group.

The serum insulin content of group P1 was lower than that of group D, and the insulin content of group P2 was lower than that of group D (P less than 0.01). There was no difference in serum insulin content between group P2 and group P1.

The content of muscle glycogen in group P1 was significantly lower than that in group D by 25%, and the difference was significant (P less than 0.01). The muscle glucose content of P2 group was significantly lower than that of D group, a decrease of 31%, and the difference was significant. There was no difference in muscle glycogen content between P2 group and P1 group.

The content of skeletal muscle in group P1 was higher than that in group D, and the difference was significant (P less than 0.05). The skeletal muscle content of group P2 was significantly higher than that of group D by 37%, and the difference was significant (P less than 0.01). Compared with the P1 group, the P2 group had no difference in skeletal muscle content.

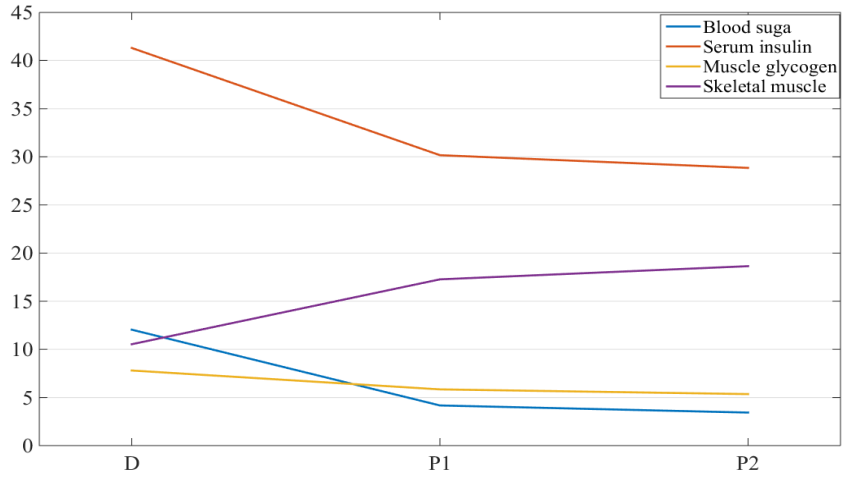

Figure 2. Changes in element content in skeletal muscle

As can be seen from the above figure, the weight of the P1 group after exercise was significantly lower than that of the P1 group before exercise. The body weight of the P2 group after exercise was lower than that of the P2 group before exercise. The body weight of P2 group after exercise was lower than that of P1 group after exercise. There was no difference in the weight of the other groups before exercise, which also means that after the exercise group rested for 24 hours, the rats could train the next day. Of course, this is related to satellite cells and skeletal muscle regulators. Satellite

cells can add extra nuclei (necessary for skeletal muscle development and repair). Therefore, if muscles are damaged, satellite cells will repair and regenerate muscle fibers after activation. The proliferation and differentiation of satellite cells will also lead to an increase in the number of skeletal muscle cells and also cause muscle fiber transformation. Experiments show that the proliferation ability of satellite cells reflects the ability of muscle regeneration, and the ability of muscle regeneration is subject to various regulatory factors. The transformation of growth factor TGF-b plays an important role in the regeneration and repair of exercise-induced skeletal muscle microfractures. This may reflect muscle regeneration. The weight of the rats after exercise was reduced compared with that before exercise, indicating that the accumulation of exercise led to the energy consumption of the rats, the muscle and glycogen reserves in the rats were relatively reduced, and long-term excessive exercise led to the reduction of muscle and glucose consumption of the rats. This study also confirmed this in experiments [10].

This article observes the significant decrease in blood glucose concentration, serum insulin concentration and muscle glucose content after sports injury. Blood urea, blood lactate and muscle lactate concentration, glucose composition, phosphokinase and allocellular dehydrogenase salt increased significantly. After exercise, blood sugar drops, and hypoglycemia negatively regulates pancreatic b cells, which reduces insulin secretion, significantly reduces insulin concentration and protects the pancreatic islets. In order to delay sports injuries, muscles stimulate GLUT4 from the inner membrane of the cell to transform the outer membrane. The increase in glucose transfer rate corresponds to the increase in GS activity. The body uses an insulin-free route to increase glucose transfer. The normal mechanism is: muscles contract slowly after exhaustive exercise, which leads to a sharp increase in the AMP content in the cells. The target protein AMRC is activated externally to stimulate related signal pathways, improve the utilization of fatty acids and glucose in peripheral tissues, especially skeletal muscle, promote energy balance, and delay the occurrence of sports injuries.

4.3. Analysis of Changes in Serum Free Amino Acid Content Caused by Sports Injuries

The separation results of serum free amino acids are shown in Figure 3. The chromatogram shows Glu and GABA separated over time. The peaks are well separated. The Glu peak appears first at 12 min, and the GABA peak also follows at 18 min the appearance.

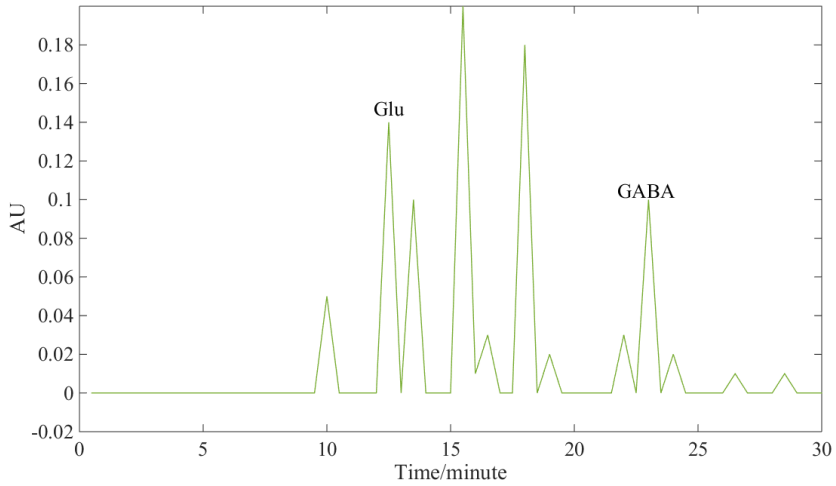

Figure 3. Chromatogram of serum free amino acids

Perform sample analysis according to the conditions, and perform linear regression with the peak area (Y) of Glu and GABA and their corresponding standard concentration (X). The results show that the linear relationship is maintained within the range of 500ng. The results are shown in Table 2:

Table 2. Linear equations and correlation coefficients

Serum free amino acids	Linear equation	Correlation coefficient
Aminoacid	Linearity	Correlationcoefficients
Glu	y=36428x+72724	0.9976
GABA	y=72382X+522412	0.9965

Figure 4 shows the concentration of amino acid neurotransmitters in brain tissue. Compared with the control group, after colistin administration for 1 day, the contents of Glu and GABA increased by 14% and 12%, respectively; after colistin administration for 3 days, the contents of Glu and GABA increased significantly. Increased by 36% and 58%, respectively; 7 days after colistin administration, the contents of Glu and GABA increased significantly by 55% and 79%, respectively.

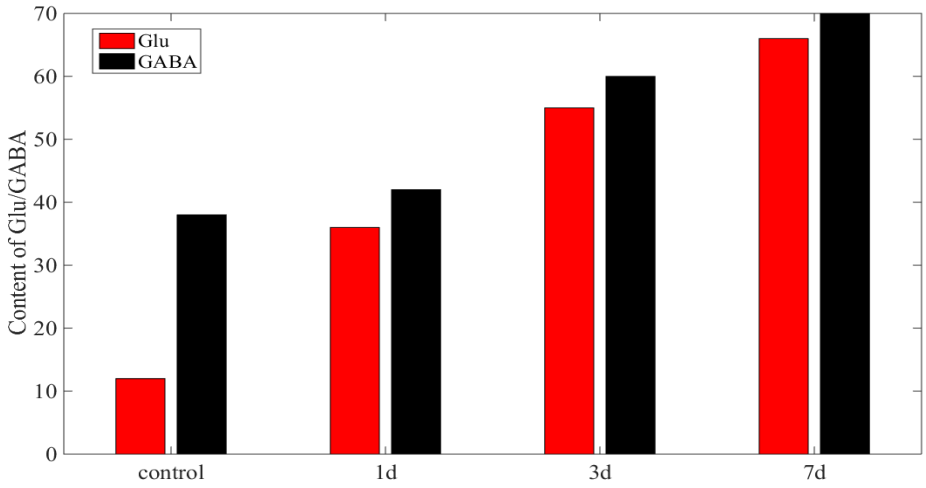

Figure 4. Comparison of Glu and GABA content determination results

Due to the nature and characteristics of the above-mentioned fluorescence detectors, fluorescence spectroscopy has received more and more attention. In recent years, with the deepening of fluorescence spectroscopy research, modern fluorescence measurement technology, fluorescence measurement and fluorescence immunoassay low-temperature fluorescence measurement technology, three-dimensional fluorescence measurement technology, solid surface fluorescence measurement technology, fluorescence response method and other measurement methods have been basically determined. Fluorescence can be used for qualitative and quantitative analysis of samples. The principle of qualitative analysis is similar to that of an absorption photometer, measuring the fluorescence spectrum of a substance under the radiation of a fixed wavelength of light; and comparing it with standard fluorescence. Maps should be compared for qualitative analysis of substances. Fluorescence spectrometer has been successfully applied to all aspects of analysis and determination. In the detection of inorganic metal ions, most metal ions can be detected by fluorescence method or modern fluorescence method. As far as medicine and health are concerned, fluorescence spectroscopy can be used to monitor most drugs and metabolites in the human body, and it can also be used to help detect certain diseases. In terms of environmental

protection, fluorescence spectrophotometry can be used to detect most environmental pollutants, as well as pesticides in food residues. It can be said that the fluorescence spectrum is closely related to our lives.

In summary, because fluorescence spectroscopy has advantages that other measurement methods do not have, through in-depth research, more and more high-sensitivity and high-selectivity fluorescence detectors are being assembled, and fluorescence analysis technology has a brighter future., Will also better serve our lives [11].

5. Conclusion

The serum free amino acids introduced in this article not only play a very important role in maintaining the health of the body and various metabolic balances, but also are important raw materials for many chemicals. Although there are many methods for determining amino acids, most of them can be achieved. The determination of amino acids, but each method has its shortcomings that are difficult to overcome. In this experiment, a fluorescence spectroscopy method was established to quantify amino acids. On the basis of the experiment, compared with other measurement methods, this provides a reference for the determination of amino acids.

As a traditional national sports project, the dragon dance and lion dance studied in this article have multiple and comprehensive cultural characteristics. After more than ten years of hard work, the training and education functions of my country's dragon-lion sports are gradually being brought into play, playing an important role in competitive sports. Schools and national gymnastics activities have been simplified and organized. Mainly reflected in the continuous improvement of relevant competition management rules and regulations. A different and clear organizational system guarantee basically forms a diversified and integrated competitive model. It uses competition as a lever, focuses on the combination of liberalization and improvement, and promotes the healthy development of dragon and lion dance [12].

The fluorescence analysis method described in this article provides a reliable method for the detection of amino acids in foods and medicines, and also provides a reference for the detection of other analogs. The method has high sensitivity, simple operation, small sample volume and low detection control. Compared with the detection methods used by other large instruments, it has the advantages of low cost and easy promotion. However, this measurement method still has some shortcomings, which need to be resolved in the future. For example, in the system of measuring three systems, we hope to find a better erasability, by choosing the best surfactant and pH value, the measurement results can be improved. Selective measurement or increase the selectivity and sensitivity by changing the reaction temperature of the medium solution to obtain better measurement results.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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