

PowerBar POWER TO PUSH™

PowerBar Playbook Series | U.S. Version



**SPORTS NUTRITION FOR
STRENGTH
TRAINING**

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Information presented in this booklet is intended to impart general fitness, nutrition and health information. Nestlé is not engaged in rendering medical advice or services. The information presented in this booklet is not intended for diagnostic or treatment purposes. You should consult your doctor for medical advice or services, including seeking advice prior to undertaking a new diet or exercise program. Advance consultation with your doctor is particularly important if you are under eighteen (18) years old, pregnant, breastfeeding, or have health problems. Never disregard professional medical advice or delay in seeking it because of something you have read in this booklet.

The basis of strength training is the progressive overloading of your muscles. If you do this while providing your body with the proper nutrition that it needs, the result will be an increase in muscle mass and strength. If you do the workouts but don't supply the nutritional building blocks, you won't effectively build new muscle tissue. Instead, you'll fatigue more quickly and the quality of your workouts will suffer. So for optimal results, strength training and nutrition go hand in hand.

KNOW THE PHASES OF MUSCLE BUILDING, AND EAT ACCORDINGLY



PowerBar ProteinPlus® Bites

If you're pumping iron, it's pretty clear that you want to add muscle mass. But some people who strength train also want to lose weight. Still others want increased muscle mass but with a lower percentage of body fat. Avoid the temptation to try to achieve all of these goals simultaneously. Instead, tackle them separately, in phases. Each phase has its own nutrition strategy.

Calories, carbohydrates, and protein are the key dietary factors that you will manipulate during each phase of strength training in order to achieve your goals:

Calories are most important. They dictate whether you gain weight or lose weight. If you want to build muscle, you might need to increase your calorie intake in conjunction with strength training. If you want to lose weight or cut fat, you'll likely need to decrease your daily calories.

Carbohydrates fuel your muscles when you train, which in turn stimulates muscles to grow. Too few carbs in the diet will saddle you with inadequate muscle fuel stores, resulting in poor-quality workouts and poor results.

Protein provides the amino acid building blocks that you'll need to support muscle development. Strength training demands some extra protein, but huge intakes aren't required. Most people who strength train will easily meet their increased needs. Consuming more protein than you need won't make your muscles bigger or stronger, but timing of protein intake can make a difference.



PowerBar ProteinPlus®
30g protein bar

There are four phases for building muscle, each one with a unique nutrition strategy. As a baseline, when your weight is stable and you're not trying to build muscle, aim for the following on a daily basis: about 20 calories per lb body weight (44 calories per kg), 3.6 grams of carbs per lb (8 grams per kg), and 0.55 grams of protein per lb (1.2 grams per kg). For a 150-lb (68-kg) athlete, this equates to about 3,000 calories, 540 grams of carbs, and 83 grams of protein daily.

When you're ready to embark on a muscle-building regimen, you'll work through the four phases of training that apply to you. In doing so, you'll change your intake of calories, carbs, and protein.

Phase I: Lose Weight Before Attempting to Add Muscle

If you need to lose weight and build muscle, it can be helpful to focus on losing the weight first. Trying to build muscle at the same time that you're trying to lose weight can be harder to manage. Your body can do both at the same time, but it might be simpler to focus on losing the weight first, and then to make muscle building the priority. Building muscle requires that you consume an excess of calories each day, while losing weight requires the exact opposite — a daily calorie deficit. So if you've got weight to lose, plan on trimming the lbs before you start bulking up. If you don't need to lose weight before bulking up, skip to phase 2.

Plan on **trimming** the pounds before you start **bulking** up.

To drop that extra weight, strive for a net deficit of about 500 calories every day, which can be achieved through either decreasing calories or increasing exercise. For example, if your weight is stable at a daily intake of 3,000 calories, cut back to about 2,500 calories; or increase your exercise to burn an additional 500 calories; or split it in half by decreasing your calorie intake by 250 calories and burning an

additional 250 calories through exercise. A net deficit of about 500 calories daily should allow you to lose roughly 1 lb (0.45 kg) per week. And this caloric level will enable you to lose weight without stressing your immune system so much that you're more susceptible to colds.

Carbohydrate intake during the weight-loss phase should be about 2.7 grams per lb (6 grams per kg) daily — about 405 grams daily for a 150-lb (68-kg) athlete.

When you lose weight, you'll lose fat, which is your goal — but you'll also lose some muscle mass. Consuming a little extra protein will help reduce the muscle loss and can also help you feel more satiated or satisfied. So when you're cutting calories to lose weight, boost your protein intake to 0.82 grams per lb (1.8 grams per kg) daily — about 123 grams daily for a 150-lb (68-kg) athlete. Strength training sessions that work all the major muscle groups will also help minimize the loss of muscle mass when you're in the weight-loss phase.

Phase 2: Bulk Up

If you're already at your desired body weight, or you've just dropped weight, it's time to focus on building muscle. To accomplish this, you'll likely need to consume a surplus of calories while you continue to strength train. Strive for an extra 500 calories per day. So if 3,000 calories daily was what you needed for a stable body weight, bump your intake to 3,500 calories to build muscle.

Carbohydrate intake during the muscle-building phase should be increased to about 4.1 grams per lb (9 grams per kg) daily — about 615 grams daily for a 150-lb (68-kg) athlete.

Protein intake during this phase should be 0.64 grams per lb (1.4 grams per kg) daily — about 96 grams daily for a 150-lb (68-kg) athlete. Strength training athletes tend to overconsume protein during the muscle-building phase. In fact, most athletes easily consume this amount of protein, and consuming more won't cause you to build more muscle. Some athletes train and eat well for a few days and then slack off. Muscles take time to grow, so stick with your program. Consistency is the key to good results. It's also important to be realistic with your goals. Average monthly gains of 4.4–8.8 lbs (2–4 kg) are generally considered achievable, but everyone has a different genetic potential to develop muscle mass.



PowerBar ProteinPlus™
protein powder drink mix



PowerBar ProteinPlus® Bites

Phase 3: Keep the Muscle, Cut the Fat

The combination of your strength training regimen and extra calories (in phase 2) will enable you to gain muscle. But it's inevitable that you'll also gain some fat. It goes with the territory, so expect it. The question is: What do you want to do about this tagalong fat?

If the combination of extra muscle strength and greater overall heft is an advantage, and cutting or tapering body fat isn't needed, skip to phase 4.

However, for some athletes, performance or visual appeal is enhanced if muscle mass is maintained but at a lower percentage of body fat. To cut the fat, discontinue the 500-calorie daily surplus from phase 2, and cut back another 500 calories. This will stop weight gain and create a calorie deficit to promote fat loss.

Carbohydrate intake during the tapering or cutting phase should be about 2.7 grams per lb (6 grams per kg) daily — about 405 grams daily for a 150-lb (68-kg) athlete.

Consuming some extra protein will help you retain muscle while you lose the fat, and it can help make your diet feel more satisfying. So when you're cutting calories to lose weight, boost your protein intake to 0.82 grams per lb (1.8 grams per kg) daily — about 123 grams daily for a 150-lb (68-kg) athlete. Your strength training sessions will also help you retain muscle mass while you're cutting the fat.

Phase 4: Adjust Calories to Keep Weight Stable

Once you've achieved your desired body weight, muscle definition, and body fat percentage, adjust your caloric intake up or down, as needed, to keep your body weight stable and to retain that hard-earned muscle mass. That translates to about 20 calories per lb body weight (44 calories per kg), 3.6 grams of carbs per lb (8 grams per kg), and 0.55 grams of protein per lb (1.2 grams per kg). If you've added a chunk of muscle through this process and are now weighing in at 160 lean lbs (73 kg), you'd now require about 3,200 calories, 576 grams of carbs, and 88 grams of protein daily.

NUTRITION GUIDE TO MUSCLE BUILDING

	TOTAL DAILY CARBOHYDRATES	TOTAL DAILY PROTEIN	TOTAL DAILY CALORIES
<p>PHASE 1: WEIGHT-LOSS FOCUS</p> <ul style="list-style-type: none"> Plan on trimming the weight before you bulk up If you don't need to lose weight, skip to phase 2 	<p>2.7 grams/lb (6 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 405 grams</p>	<p>0.82 grams/lb (1.8 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 123 grams</p>	<p>Strive for a deficit of 500 calories daily for a healthy weight loss of about 1 lb per week</p>
<p>PHASE 2: BULK UP</p> <ul style="list-style-type: none"> Consistency is the key Set realistic goals Monthly gains of 4.4–8.8 lbs (2–4 kg) are generally considered achievable 	<p>4.1 grams/lb (9 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 615 grams</p>	<p>0.64 grams/lb (1.4 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 96 grams</p>	<p>Strive for an extra 500 calories per day, while continuing to strength train</p>
<p>PHASE 3: KEEP MUSCLE, CUT FAT</p> <ul style="list-style-type: none"> Goal is to cut body fat percentage If cutting body fat is not needed or desired, skip to phase 4 	<p>2.7 grams/lb (6 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 405 grams</p>	<p>0.82 grams/lb (1.8 grams/kg)</p> <p>Example: If you weigh 150 lbs (68 kg) = 123 grams</p>	<p>Stop adding the extra 500 calories</p> <p>To decrease body fat percentage, drop another 500 calories</p>
<p>PHASE 4: KEEP WEIGHT STABLE</p> <ul style="list-style-type: none"> You have achieved your desired body weight, muscle definition, and body fat percentage If you added muscle through this process, you are now weighing in at a lean 160 lbs (73 kg) 	<p>3.6 grams /lb (8 grams/kg)</p> <p>Example: If you weigh 160 lbs (73 kg) = 576 grams</p>	<p>0.55 grams/lb (1.2 grams/kg)</p> <p>Example: If you weigh 160 lbs (73 kg) = 88 grams</p>	<p>Adjust your calorie intake up or down, as needed, to keep your body weight stable and to retain that hard-earned muscle mass</p> <p>Aim for about 20 calories/lb body weight (44 calories/kg)</p> <p>Example: If you weigh 160 lbs (73 kg) = 3,200 calories</p>

KEY PRINCIPLES OF SPORTS NUTRITION FOR WORKOUTS

Having covered the four phases of strength training and how the overall intake of calories, carbs, and protein shifts from one phase to the next, it's time to turn our attention to how to best support your actual strength training workouts.

There are three important sports nutrition principles to apply that will power you through your training sessions. Being hydrated and fueled will help you function at your best when training. And supplying the nutritional components needed for recovery will help you fully achieve the gains in muscle size and strength from the hard work you're putting in.

HYDRATION

When you're dehydrated, training is more difficult, and the weight you're pushing or pulling feels even heavier. Long workouts in a stuffy gym, and any aerobic workouts you're doing, will cause you to lose fluids and sodium through sweating. If these losses aren't fully replenished from one workout to the next, you're at risk of becoming dehydrated during training, and your workout suffers as a consequence. Dehydration can be avoided by sticking to a disciplined hydration plan before, during, and after you train, and that applies to both your strength and aerobic workouts.



Ironman PERFORM™
sports drink

FUELING

Carbohydrates serve as a primary source of muscle fuel during your workouts. Carbohydrate fuel is present in your body in two forms: Glucose circulates in your bloodstream, and bundles of glucose called glycogen are stored in your liver and muscles. The catch is that you don't have much of a reserve of these important fuel stores. Approximately 25–35% of total muscle glycogen stores are used during a single 30-second lifting session. So if you're not consuming adequate carbohydrates in between training sessions, your muscle glycogen reserves will gradually dwindle. Low glycogen stores have been shown to reduce strength and the force you're able to generate, and this can limit your ability to train. So it's important to be prepared for training sessions with your carbohydrate fuel reserves fully replenished.

RECOVERY

During workouts, your muscle tissue is being stimulated to increase as an adaptation to your training. Muscle tissue also gets damaged as you train, and workouts deplete your glycogen reserves and cause

you to lose fluids and sodium. Recovery is the process of repairing and building new muscle tissue, reloading carbohydrate fuel stores, and rehydrating. It's during the recovery process that you achieve the gains in muscle mass and strength from each training session. And it's the process of recovery that enables you to be ready for your next workout. So recovery is an extremely important element of your strength training game plan. Your body is ready to begin recovery as soon as you finish your last lift, but recovery doesn't begin in earnest until you provide your body with the nutritional components that it needs.



PRACTICAL SPORTS NUTRITION STRATEGIES FOR STRENGTH TRAINING

START WORKOUTS FULLY HYDRATED



Ironman PERFORM™
sports drink

If you go into training sessions fully hydrated, you'll be able to train harder and achieve better workouts. Make up for any fluid deficits that you might have incurred from prior workouts by consuming 14–20 fl oz (400–600 ml) of water, an electrolyte drink, or a sports drink 2–3 hours before you start training. Monitor your hydration status before a workout by checking the color of your urine. A light-yellow color is consistent with adequate hydration. If your urine is darker, more like the color of apple juice, that's a sign that more fluids are needed.



PowerBar® Energy Blasts
gel filled chews

START WORKOUTS FULLY FUELED

Full muscle glycogen depletion doesn't occur from a single strength training workout, but glycogen stores are significantly depleted when you are doing repetitive lifts. So if fuel reserves aren't consistently replenished between workouts, deficits build and you start to feel increasingly fatigued as you train.

To top off muscle glycogen fuel stores before training, consume a meal 2–4 hours before your workout. The goal is to start a workout fueled and hydrated but also feeling comfortable. Choose familiar carb-based foods and beverages and avoid slow-to-digest fatty and high-fiber foods prior to training. Carb-based foods include pasta, rice, bread, cereal, fruit, and sweetened dairy products such as flavored yogurts and flavored milks. Experiment to find the right food — and the right timing — that works best for you.

IDEAS FOR CARBOHYDRATE-BASED PREWORKOUT MEALS

(2–4 hours before workout)

Breakfast Options

- Cold or hot cereal with fruit or fruit juice and low-fat or nonfat milk
- French toast or pancakes with maple or fruit syrup
- Toast with jam or honey and low-fat yogurt
- Breakfast burrito (scrambled eggs, salsa, and low-fat cheese in a flour tortilla) and fruit juice
- Bagel or English muffin with jelly and/or peanut butter, banana, and fruit juice

Lunch or Dinner Options

- Pasta or cheese ravioli with low-fat, tomato-based sauce; low-fat/nonfat milk; pudding snack; and canned fruit
- Grilled chicken sandwich with frozen low-fat yogurt
- Turkey sub sandwich with tomato, lettuce, and mustard; baked chips; and fruit juice
- A slice of thick-crust cheese pizza and canned peaches
- Baked or grilled lean beef, chicken, turkey, or fish; steamed rice; dinner roll; cooked green beans; and low-fat milk



PowerBar® Performance Energy bar

DON'T SKIP MEALS AND SNACKS

Your muscle tissue is constantly being remodeled. Existing muscle proteins are being broken down, while new muscle proteins are being made. The breakdown process is called protein catabolism; the making of new muscle tissue proteins is called protein anabolism. At any given moment, the two processes are happening simultaneously in your muscles, but the rates of each are constantly changing. What you eat has a strong impact. For example, eating protein has a strong anabolic effect on your muscle tissue, whereas going without food overnight or for an extended period has a catabolic effect. So don't skip breakfast or go for long periods without eating, especially before workouts, and make sure to consume some protein with each meal and snack. To maximize energy for your training session, aim for a snack 30–60 minutes before your workout. Also, carry snacks with you during the day so that you don't have to go too long without eating or rely on less suitable options.



PowerBar® Energy Bites

PREWORKOUT SNACKS	Carbs
Fruit smoothie made with fruit and fat-free yogurt (8 fl oz/240 ml)	47g
Meal replacement beverage (8 fl oz/240 ml)	30–41g
Low-fat or nonfat yogurt (6-oz/180-ml container)	33g
PowerBar® Performance Energy bar	44–46g
PowerBar® Energy Bites (1 pouch)	26g
PowerBar® Energy Blasts gel filled chews (1 pouch)	45g
Ironman PERFORM™ sports drink (20 fl oz/591 ml)	42g

TIME YOUR PROTEIN INTAKE AROUND TRAINING AND PROVIDE A LEUCINE BOOST

Strength training boosts the rate at which muscle tissue proteins are made, both during and after exercise. Although protein requirements vary between individuals, aim for 10–20 grams of protein as part of a carbohydrate/protein snack about an hour before your training session, and aim for 15–25 grams of protein within 1 hour after exercise. This will help ensure that you have amino acid building blocks on hand to support the making of new muscle proteins. For muscle repair and building when glycogen restoration is not a priority, use PowerBar ProteinPlus™ protein powder drink mix to help build lean muscle. For more intense periods of strength training, take advantage of research indicating that the amino acid leucine directly stimulates



PowerBar ProteinPlus® 30g protein bar

muscle protein synthesis. PowerBar ProteinPlus® 30g protein bar leverages this cutting-edge research by providing 30 grams of muscle-building protein, 33 grams of carbs, and 3.5 grams of leucine per serving. Consuming half of a bar before and half after working out is ideal for jump-starting the muscle-building process.

MATCH YOUR SWEAT RATE

Dehydration impairs your ability to train when you lose upwards of 2% of your body weight due to fluid loss — that's just 3 lbs (1.4 kg) for a 150-lb (68-kg) athlete. It is the consensus recommendation of authorities such as the American College of Sports Medicine that athletes consume fluids at a rate that closely matches their sweat rate in order to stay hydrated when training. This generally requires something on the order of 13–26 fl oz (400–800 ml) of water or a sports drink every hour of exercise, preferably in smaller amounts taken frequently, such as 3–6 fl oz (100–200 ml) every 15 minutes. However, fluid needs can vary considerably. For a step-by-step guide to calculating your sweat rate, and to obtain a personalized hydration plan, click on the [PowerBar Sweat Rate Calculator](http://www.powerbar.com/src) at www.powerbar.com/src.

CARRY YOUR OWN SPORTS BOTTLE AND REHYDRATE FREQUENTLY

Get into the habit of carrying your own sports bottle with you during workouts. This will enable you to have complete control over when you're hydrating, what you're hydrating with, and what volume you're consuming. Water or a low-calorie, flavored drink should suffice for most workouts when you're in a training phase that requires a cut in calories. A sports drink, such as Ironman PERFORM™ sports drink, is ideal for really hot, humid days, or when you need the extra carbs and calories. Also, each break between sets is your chance to rehydrate, so take advantage of those breaks and stay hydrated.

ACTIVELY PROMOTE RAPID RECOVERY

You've just finished your workout, but your work isn't done. Your body is ready to start the recovery process just as soon as you finish your last set. But to reap the full benefits of all your hard work, you need to provide your body with the nutrients it needs. That includes protein to repair and build muscle tissue, carbohydrates to restore depleted glycogen stores, and fluids and sodium to rehydrate.

Protein

As previously stated, consuming 15–25 grams of protein within 1 hour after exercise will provide the amino acids needed for repairing muscle tissue and for making new muscle tissue as an adaptation to your training.



PowerBar ProteinPlus® protein bar



Carbohydrates

To optimize muscle protein synthesis after working out, and to speed the glycogen restoration process, consume carbs along with protein as soon as possible after working out. For maximal benefit, consume about 0.5 grams of carbohydrates per lb (1.1 grams per kg) body weight within 30 minutes of finishing your workout, and repeat this within 2 hours or consume a carb-based meal. For a 150-lb (68-kg) athlete, that equates to 75 grams of carbohydrates right after exercise, and then again 2 hours later. Over a 24-hour period, your usual carbohydrate-based meals and beverages will generally promote the full reloading of muscle glycogen stores.

Fluids and Sodium

Weigh yourself before and after working out in order to gauge your net loss of fluids. Replace this fluid after training by gradually drinking 16–24 fl oz of a recovery beverage, sports drink, or water for every lb of weight lost (or 1,000–1,500 ml per kg of weight lost). Consume sodium sources along with your fluids. Rehydration will be more effective when sodium is included with the fluid and food that you consume as you recover. If your loss of fluid during training consistently exceeds 2% of your body weight, try to increase your fluid intake during subsequent workouts in order to avoid dehydration.



Ironman RESTORE™
sports drink mix

PowerBar offers a variety of practical solutions for promoting recovery after workouts, including PowerBar ProteinPlus™ protein powder drink mix, PowerBar ProteinPlus® 30g protein bar, PowerBar® Recovery bar, PowerBar ProteinPlus® Bites, and Ironman RESTORE™ sports drink mix.

The following are some mix-and-match snack ideas for speeding recovery after a tough training session.



PowerBar ProteinPlus™
protein powder drink mix



PowerBar ProteinPlus®
protein bar

GYM BAG STASH FOR RAPID RECOVERY

Mix and match:

Whole-wheat pretzels, nuts, and dried fruits

String cheese, crackers, and fresh fruit (e.g., banana)

Low-fat yogurt or pudding

Lean beef jerky

Ironman RESTORE™ sports drink mix

PowerBar ProteinPlus™ protein powder drink mix

PowerBar® Recovery bar

PowerBar ProteinPlus® 30g protein bar

PowerBar® Nut Naturals Energy bar

PowerBar ProteinPlus® Bites

PowerBar ProteinPlus® protein bar (23g protein)

MAXIMIZE THE BENEFITS OF YOUR STRENGTH TRAINING WITH POWERBAR SPORTS NUTRITION

Train at your best by understanding the phases of strength training and the nutrition strategies for each phase. In addition, be prepared nutritionally for every workout, stay hydrated and fueled during workouts, and do what's required afterwards to ensure complete recovery. PowerBar® sports nutrition products can help you meet your hydration, fueling, and recovery needs during each phase of your strength training regimen.

DAILY SPORTS NUTRITION STRATEGIES FOR MUSCLE BUILDING

Sports Nutrition Plan			
	CARBS	PROTEIN	FLUID
BEFORE	<ul style="list-style-type: none"> 2–4 hours before training, have a carb-based, low-fat, low-fiber meal 30–60 minutes before training, have a carb-based snack (aim for 40–60 grams of carbs) 	<ul style="list-style-type: none"> Have a moderate-protein meal 2–4 hours before training Have a snack containing 10–20 grams of protein about 1 hour before training 	<ul style="list-style-type: none"> Drink 14–20 fl oz of water or sports drink (400–600 ml) 2–3 hours before training
DURING	<ul style="list-style-type: none"> During longer/more intense training, have 30–60 grams of carbs per hour 	<ul style="list-style-type: none"> Not required 	<ul style="list-style-type: none"> Drink at least 13–26 fl oz (400–800 ml) per hour in small, frequent doses as training permits
AFTER	<ul style="list-style-type: none"> Within 30 minutes after training, have 0.5 grams of carbs per lb body weight (1.1 grams per kg) Repeat within 2 hours of training, or transition to carb-based meals or snacks 	<ul style="list-style-type: none"> Aim for 15–25 grams of protein within 1 hour after training 	<ul style="list-style-type: none"> Gradually drink 16–24 fl oz per lb body weight lost (1,000–1,500 ml/kg body weight lost)



PowerBar ProteinPlus Portfolio

PRODUCT FEATURES AND BENEFITS

POWERBAR® PRODUCTS ARE DESIGNED TO BE USED IN COMBINATION TO MEET YOUR SPORTS NUTRITION NEEDS: Mix and match to meet the demands of your training and competitions.

		PROTEIN (GRAMS)	CARBS (GRAMS)	KEY FEATURES	SUGGESTED USES
	PowerBar® Performance Energy bar	8–9g/bar	44–46g/bar	Maximum energy delivery with PowerBar® C2MAX dual source energy blend ¹ ; cramp-crushing™ electrolytes ² ; low in fat	Before and during higher-intensity exercise
	PowerBar® Fruit Smoothie Energy bar	6g/bar	43g/bar	Maximum energy delivery with PowerBar® C2MAX dual source energy blend ¹ ; cramp-crushing™ electrolytes ² ; low in fat	Before and during higher-intensity exercise
	PowerBar® Energy Gel*	0g/packet	27–28g/packet	Maximum energy delivery with PowerBar® C2MAX dual source energy blend ¹ ; cramp-crushing™ electrolytes ² ; 0g fat	Before and during higher-intensity exercise
	PowerBar® Energy Blasts gel filled chews*	3g/packet	45g/packet	Customized energy delivery with bite-sized gel-filled chews and PowerBar® C2MAX dual source energy blend ¹	Before and during moderate- and high-intensity exercise
	Ironman PERFORM™ sports drink	0g/20 fl oz	42g/20 fl oz	Maximum energy delivery with PowerBar® C2MAX dual source energy blend ¹ ; cramp-crushing™ electrolytes ²	Before and during exercise
	Ironman PERFORM™ sports drink mix	0g/20 fl oz	42g/20 fl oz	Maximum energy delivery with PowerBar® C2MAX dual source energy blend ¹ ; cramp-crushing™ electrolytes ²	Before and during exercise
	PowerBar® Energy Bites	5g/serving	26g/serving	Customized energy delivery with bite-sized pieces and PowerBar® C2MAX dual source energy blend ¹	Before and during moderate-intensity exercise
	PowerBar Harvest® Energy bar	10g/bar	42–43g/bar	Long-lasting energy with 5 grams of fiber per bar	Before and during moderate-intensity exercise
	PowerBar® Pure & Simple Energy bar	5g/bar	22–23g/bar	Calorie-smart, long-lasting energy	Before and during moderate-intensity exercise
	PowerBar® Triple Threat® Energy bar	10–11g/bar	30–32g/bar	Long-lasting energy with protein to support muscle growth and repair	Before and during moderate-intensity exercise
	PowerBar® Nut Naturals Energy bar	10g/bar	20–21g/bar	Long-lasting energy with protein to support muscle growth and repair	Before and during moderate-intensity exercise
	PowerBar® Prio® 110 Plus nutrition bar	5g/bar	15–17g/bar	Calorie-smart energy	Before and during exercise
	PowerBar® Recovery bar	12g/bar	30g/bar	Carbs to replenish muscle glycogen, protein to support muscle growth and repair, and fat to help restore muscle lipids	After exercise
	Ironman RESTORE™ sports drink mix	7g/20 fl oz	50g/20 fl oz	Rehydration with carbs to replenish muscle glycogen, and protein to support muscle growth and repair	After exercise
	PowerBar ProteinPlus® Bites	20g/serving	34g/serving	Provides customized protein delivery to help build lean muscle along with exercise	Before and/or after exercise
	PowerBar ProteinPlus™ protein powder drink mix	20g/8 fl oz	7g/8 fl oz	Protein to help build lean muscle	Before and/or after exercise
	PowerBar ProteinPlus® protein bar	23g/bar	35–39g/bar	Protein to help build lean muscle	Before and/or after exercise
	PowerBar ProteinPlus® 30g protein bar	30g/bar	33g/bar	Protein with added leucine to support muscle growth and repair	Before and/or after exercise
	PowerBar® Elite Series HIGH INTENSITY Sustained Release Beta Alanine dietary supplement**			 <ul style="list-style-type: none"> • Helps enhance high-intensity performance*** • NSF Certified for Sport™ • Steady supply of beta-alanine 	<ul style="list-style-type: none"> • Increases muscle carnosine, which buffers muscle acids • Designed for endurance, strength, and team athletes

* Please refer to product labels, as some varieties of PowerBar® Energy Blasts gel filled chews and PowerBar® Energy Gels contain caffeine, which is not recommended for children 18 and under or pregnant women.
** For adult use only.

*** These statements have not been evaluated by the U.S. Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

1. Formulated with C2MAX, a 2:1 glucose to fructose blend found to deliver 20–50% more energy to muscles than glucose alone and improve endurance performance by 8%.

2. Contains per labeled serving (80–200mg sodium), a key electrolyte lost in sweat that is associated with muscle cramping in some athletes.

REFERENCES

1. Bodybuilding at a Glance. In: Sports Nutrition: A Practice Manual for Professionals. 4th ed. Sports, Cardiovascular, and Wellness Nutritionists Dietetic Practice Group. Dunford M, ed. American Dietetic Association. 2006: 502.
2. Burke L. Strength and Power Sports. In: Practical Sports Nutrition. Human Kinetics, Australia, 2007: 265–287.
3. Tarnopolsky M. Protein and Amino Acid Needs for Training and Bulking Up. In: Burke L, Deakin V. Clinical Sports Nutrition. 3rd ed. McGraw-Hill, 2006: 73–III.
4. American College of Sports Medicine; American Dietetic Association; Dietitians of Canada. Joint Position Statement: Nutrition and Athletic Performance. American College of Sports Medicine, American Dietetic Association, and Dietitians of Canada. Med Sci Sports Exerc 2000; 32: 2,130–2,145.
5. American College of Sports Medicine, Sawka MN, Burke LM, Eichner ER, Maughan RJ, Montain SJ, Stachenfeld NS. American College of Sports Medicine Position Stand. Exercise and Fluid Replacement. Med Sci Sports Exerc 2007; 39: 377–390.
6. American Dietetic Association. Fueling Body Builders (handout). 2006.
7. Australian Institute of Sport. Increasing Muscle Mass. www.ausport.gov.au/ais/nutrition/factsheets/body_size_and_shape2/increasing_muscle_mass.
8. Norton LE, Layman DK. Leucine Regulates Translation Initiation of Protein Synthesis in Skeletal Muscle After Exercise. J Nutr 2006; 136: 533S–537S.
9. American Dietetic Association, Dietitians of Canada, American College of Sports Medicine, Rodriguez NR, DiMarco NM, Langley S. American College of Sports Medicine Position Stand. Nutrition and Athletic Performance. Med Sci Sports Exerc 2009; 41: 709–731.

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